The Dissertation Committee for Amy Melissa Hamilton certifies that this is the approved version of the following dissertation:

The Relation Between Comorbid Anxiety and Treatment Outcome in Depressed Early Adolescent Girls

Committee:

_____
Kevin D. Stark, Supervisor

_____
Deborah J. Tharinger

_____
Timothy Z. Keith

_____
Janay B. Sander

_____
Alexandra Loukas

The Relation Between Comorbid Anxiety and Treatment Outcome in Depressed Early Adolescent Girls

by

Amy Melissa Hamilton, B.A.; M.A.

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DEDICATION

This project is dedicated to my wonderful husband, Jeff. Your unending faith in me has always pushed me to reach for the stars and your love and support over the past twelve years has given me the courage to make my dreams come true. Thanks for always being there to celebrate my happy moments and for holding my hand through the tough ones.

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The Relation Between Comorbid Anxiety and Treatment Outcome in Depressed Early Adolescent Girls

Amy Melissa Hamilton, Ph.D.

The University of Texas at Austin, 2009

Supervisor: Kevin D. Stark

Previous research has suggested that depressive disorders are common in youth and are associated with many negative outcomes. As a result, understanding how to treat depression effectively is very important. It is unclear; however, what factors predict treatment success or failure for depressed youth. Researchers are starting to investigate whether comorbid anxiety is a possible moderator of treatment outcome for youth with depression. Studies of the relation between comorbid anxiety and treatment outcome have produced mixed findings and have almost exclusively focused on older depressed adolescents. There is also limited research exploring whether parent intervention moderates the effect of comorbid anxiety on treatment outcome in depressed youth. This study focused on investigating the relation between comorbid anxiety and treatment outcome in a sample of 84 depressed female early adolescents who received either group cognitive behavioral therapy (CBT) or group CBT plus a parent intervention. The addition of parent intervention was explored as a moderator of the relation between anxiety and treatment outcome. Treatment outcome was measured by changes in

depression severity and global functioning during treatment. The depression severity and global functioning scores of depressed girls with comorbid anxiety were also compared to depressed girls without comorbid anxiety prior to treatment to determine whether the first group of girls entered treatment with a different level of psychopathology. Participants and their primary caregivers were administered a semi-structured diagnostic interview which was used as a measure of depression severity, global functioning, anxiety severity, and to determine whether participants met diagnostic criteria for depressive and anxiety diagnoses. The results of this study suggested that depressed youth with comorbid anxiety or higher anxiety severity started out treatment with higher depression severity and lower functioning. Results also suggested that comorbid anxiety was not related to negative treatment outcome and that youth with comorbid anxiety actually experienced larger reductions in depression severity over the course of treatment than youth without comorbid anxiety. Parent intervention did not significantly moderate the effect of comorbid anxiety on treatment outcome. The study's limitations, implications of the results, and recommendations for future research were discussed.

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CHAPTER 1

Introduction

Depressive disorders are common in youth (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996) which is a serious concern given that child and adolescent depression has been found to be a debilitating disorder that is associated with many negative outcomes (Lewinsohn, Rohde, & Seeley, 1998). Depression is an especially common disorder in females and the lifetime risk of major depression for females is twice that of males (American Psychiatric Association (APA), 2000). Depression in youth has been found to be related to substance abuse, suicidal behaviors, and future social, academic, and work related difficulties (Fergusson & Woodward, 2002; Office of Applied Studies (OAS), 2006; Weissman et al., 1999). In addition, depressive disorders in youth increase the risk of experiencing future psychopathology including depression recurrence (Lewinsohn, Rhode, Klein, & Seeley, 1999; Rao et al., 1995).

Early adolescence is a significant period in the development of depression in view of the fact that the overall rate of depression drastically increases between early and late adolescence (OAS, 2006; Saluja et al., 2004). The gender difference in depression also first emerges during early adolescence (Hankin et al., 1998). This suggests that early adolescence is a time that females are especially vulnerable to depression. Given that depression is common in females and is associated with so many negative outcomes, developing effective early interventions for girls with depression is imperative. The importance of early adolescence in the development of depression suggests that

interventions developed for girls at this specific developmental stage may be especially beneficial.

Research suggests that psychotherapy is an effective initial treatment for depressed children and adolescents (Birmaher, Ryan, Williamson, Brent, & Kaufman, 1996) and reviews of psychotherapy treatment studies suggest Cognitive Behavioral Therapy (CBT) is both the most frequently investigated and the most empirically supported treatment for depressed youth (Curry, 2001). Treatment outcome studies investigating CBT with depressed children and adolescents have produced positive results, however, approximately one third to one half of youth do not recover from their depressive episodes at the end of these interventions (Clark et al., 1992). It is still unclear; however, what factors predict treatment success or failure for depressed youth (Brent et al., 1998). One factor that researchers are starting to investigate as a possible moderator of treatment outcome is the presence of comorbid conditions (Brent et al., 1998, Clarke et al., 1992, Curry et al., 2006; Jayson, Wood, Kroll, Fraser, & Harrington, 1998; Rohde, Clark, Lewinsohn, Seeley, & Kaufman, 2001; Young, Mufson, & Davies, 2006). The study of comorbidity has been identified as an important area of research especially in children and adolescents with depression given that comorbidity in depressed youth is very common (Hammen & Rudolph, 2003).

The most common comorbid condition in youth with depression is anxiety (Garber, 2006). Comorbid anxiety appears to be especially prevalent in females (National Institute of Mental Health (NIMH), 2003). Research also suggests that comorbid anxiety is likely to develop by age 12 in children with depression (Kovacs, Gatsonis, Paulauskas,

& Richards, 1989). Depressed children and adolescents who have comorbid anxiety also experience more negative outcomes than children without comorbid anxiety including increased depressive symptomatology and depression severity, earlier depression onset, and increased suicidal ideation (Ghaziuddin, King, Naylor, & Ghaziuddin, 2000; Kendall, Kortlander, Chansky, & Brady, 1992; Kovacs et al.; Mitchell, McCauley, Burke, & Moss, 1988; Rohde et al., 2001). These results suggest comorbid anxiety commonly occurs in depressed youth starting prior to early adolescence and is especially common in females. Given these findings, it is important to determine how comorbidity may influence the nature and treatment of depression in young adolescent girls.

One limitation in the current literature on the relation between comorbid anxiety and treatment outcome is that research in this area has focused almost exclusively on older adolescents. Although research suggests the importance of early adolescence in the development of depression, only one study of the relation between comorbid anxiety and treatment outcome included both younger and older adolescents (Jayson et al., 1998). Results of this study suggested that comorbid anxiety was not related to treatment outcome. This study, however, used a very brief individual CBT intervention and their small sample size may have restricted their findings. There have been no studies of group CBT with children or early adolescents evaluating comorbid anxiety as a possible moderator of treatment outcome. Four studies have investigated whether comorbid anxiety impacts treatment outcome specifically in group CBT treatments for depressed adolescents (Brent et al., 1998, Clarke et al., 1992, Curry et al., 2006; Rohde et al., 2001). Three of the four studies found that individuals with comorbid anxiety and depression

were less likely to improve from treatment than depressed individuals without comorbid anxiety (Brent et al.; Clark et al; Curry et al.). The other study found that the presence of comorbid anxiety was related to more post-treatment change (Rohde et al.). This study, however, was limited by the fact that they used measures of lifetime comorbidity instead of current comorbidity and excluded people experiencing common current anxiety disorders.

There is also very limited research about whether the relation between comorbid anxiety and treatment outcome in depressed youth may be moderated by including parents in treatment. Only one study has explored this (Rohde et al., 2001), but these researchers did not find that parent intervention was a moderator. As previously discussed, however, this study had limitations which may have influenced the results. The co-occurrence of anxiety and depression has been found to be associated with many negative family factors (Stark, Humphrey, Crook, & Lewis, 1990). As a result of these findings, Stark, Laurent, Livingston, Boswell, & Swearer (1999) suggest that the treatment of comorbid anxiety and depression may need to involve the parental system in addition to working with the children. Research has also suggested a benefit to receiving parent intervention for children with anxiety (Barrett, Dadds, & Rapee, 1996; Thienemann, Moore, & Tompkins, 2006). This information suggests that receiving a parent component in addition to CBT therapy may be especially beneficial for children with comorbid anxiety and depression.

Overall, the literature on depression and the experience of comorbid anxiety in depressed youth suggests there is a need for research that provides more information

about the link between comorbid anxiety and treatment outcome especially for female children and early adolescents. In addition, research is also needed to determine whether parent intervention moderates the relation between comorbid anxiety and treatment outcome in order to develop the most effective interventions for youth with both anxiety and depression. This study, therefore, investigated the relation between comorbid anxiety and treatment outcome in a sample of young female adolescents who received either group CBT or group CBT plus a parent intervention.

The primary goals of this investigation were to determine whether comorbid anxiety moderated treatment outcome in girls with depression who received group CBT treatment and to determine whether including parents in treatment changed the relation between comorbid anxiety and treatment outcome. Treatment outcome was measured both by changes in depression severity and global functioning during treatment. In addition, the depression severity and global functioning scores of depressed girls with comorbid anxiety were compared to depressed girls without comorbid anxiety prior to treatment to determine whether the first group of girls entered treatment with a different level of psychopathology. This study aimed to further develop our understanding of the symptomatology and functioning of girls with comorbid anxiety and depression and to provide information that could be used to determine how to most effectively treat young adolescents who have both depression and anxiety.

CHAPTER 2

Review of the Literature

Child and Adolescent Depression

Overview of Depression in Youth

Historically depression was viewed as an adult disorder and many professionals thought that children either did not have the capacity to experience depression or that experiencing depressive symptoms was just a typical part of development (Christner & Walker, 2007). More recently, however, it has been recognized that depressive disorders are common in youth. In fact, in 2005 it was estimated that approximately 13.7% of American adolescents aged 12 to 17 had experienced at least one episode of major depression in their lifetimes (OAS, 2006). These results suggest that many youth experience depressive disorders. There is also a literature base suggesting that the prevalence of depression is increasing at an especially high rate in younger people while the age of onset of depression is decreasing over time (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl, et al., 1996; Seligman, 1998). Seligman explained that during the past approximately fifty years there has been at least a tenfold increase in the rate of depression and the rate is still continuing to rise. This is a serious concern given that depression in youth has been found to be a debilitating disorder that is associated with many negative outcomes (Lewinsohn et al., 1998). Depression in youth has been found to be related to substance abuse, suicidal behaviors, and future social, academic, and work related difficulties (Fergusson & Woodward, 2002; OAS; Weissman et al., 1999). In addition, depressive disorders in youth increase the risk of experiencing future

psychopathology including depression recurrence (Lewinsohn et al., 1999; Rao et al., 1995).

Prevalence of Depression in Youth

NIMH (2003) reported that about 6% of 9 to 17 year old children experience major depression. Research suggests that the prevalence of depression is relatively low in childhood (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996; Kashani & Carlson, 1987) but this rate drastically increases between early and late adolescence (OAS, 2006; Saluja et al., 2004). Depression has been found to be very rare in preschool samples and affects approximately 1% of children in this age group (Kashani & Carlson). Reports from studies of child and adolescent depression have reported that approximately two percent of children and four to eight percent of adolescents experience Major Depressive Disorder (MDD) (American Academy of Child and Adolescent Psychiatry (AACAP; 1998) and the rates of Dysthymic Disorder (DD) in children range from .6% to 1.7% and from 1.6% to 8% for adolescents (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al.).

Lifetime estimates of depression in adolescents have been reported to range from approximately 15% to 20% which is similar to the rate in adults (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996). Some research, however, suggests the lifetime prevalence rate in adolescents may be a little higher (Lewinsohn et al., 1998) and other research suggests it may be a little lower (OAS, 2006). Based on results from their study of 1,709 depressed adolescents, Lewinsohn and colleagues estimated that 28% of adolescents will experience a major depressive episode by the time they are nineteen

years old. The Office of Applied Studies (OAS) surveyed over 22,000 adolescents and indicated that 13.7% of 12 to 17 years olds reported having a major depressive episode in their lifetime. Saluja et al. (2004) studied the prevalence of depression in early adolescents by collecting data from a nationally representative sample of 9,863 students in grades six, eight, and ten. Their results suggested that approximately one out of every six young adolescents in the U.S. experiences significant depressive symptoms.

Research has also suggested that the prevalence of depression increases rapidly during adolescence. The Office of Applied Studies (OAS; 2006) found that the prevalence of a major depressive episode in the past year increased from 4.3% in 12 year olds to 11.9% in 17 year olds. Research by Saluja et al. (2004) indicates that the prevalence of significant depressive symptoms approximately doubles for boys between grades six and ten and triples for girls during this time.

Gender Differences

According to the DSM-IV-TR, the lifetime risk of major depression for females is twice that of males (APA, 2000) and being female is related to increased depression severity (McCauley et al., 1993). Research by Hankin et al. (1998) suggests that in childhood the rates of depression are relatively similar in boys and girls. During adolescence, the rates of major depressive episodes and significant depressive symptoms are higher for females than males (OAS, 2006; Saluja et al., 2004). The Office of Applied Studies (OAS) found that in adolescents from 12 to 17 years old, 13.3% of females reported experiencing a depressive episode in the past year whereas only 4.5% of adolescent males reported this.

Hankin et al. (1998) found that the gender difference in the rates of depression begins sometime between 13 and 15 years old. Then between 15 to 18 years of age the rate of depression in both genders increases but in females the rate increases to twice that of the males (Hankin et al.). Petersen, Sarigiani, and Kennedy's (1991) research suggested that by 12th grade, girls have significantly poorer emotional tone and more depressed affect than boys. Their findings indicated that the difference in depressive features between genders begins in about eighth grade and then continues to increase over time.

Research suggests some possible reasons for the gender differences in depression (Petersen et al., 1991). Girls appear to have different coping styles than boys that often emerge during adolescence (Nolen-Hoeksema, 1987) which may impact the way they experience stressful events. Whereas males tend to try to actively problem solve stressful situations using instrumental coping strategies, females more often ruminate about how they feel and the cause of their stress (Nolen-Hoeksema). Research suggests that the use of less instrumental coping is related to depression (Marcotte, Alain, & Gosselin, 1999). Hankin and Abramson (2002) also found that girls are more likely to have more negative thoughts about themselves and approach events more negatively. They found that this cognitive style mediated the differences between gender and depressive symptoms. Stress is related to depressive symptoms in girls but not boys (Rudolph & Hammen, 1999), which provides further evidence that stressful events seem to have a more negative impact on girls.

Research has suggested that low self-esteem is a significant predictor of depression (Allgood-Merten, Lewinsohn, & Hops, 1990) and girls appear to view themselves more negatively than boys (Cole, Jacquez, & Maschman, 2001). Cole et al. found that girls' self ratings of their competence were often lower than parent, teacher, and peer ratings of their competence, whereas boys often provided self ratings of their competence that were higher than parent, teacher, and peer ratings. Body image also appears to be a major factor in the self-esteem of adolescents especially for girls (Allgood-Merten et al.). These authors found that body image was a major contributor to self-esteem in adolescence and in turn self-esteem was related to depression. Other studies have suggested that body image is a mediator between gender and depression (Siegel, Yancey, Aneshensel, & Schuler, 1999).

Puberty also appears to be exceptionally stressful for girls. When girls experience menarche or puberty earlier than their peers they are more likely to experience psychopathology, especially depression (Ge, Conger, & Elder, 2001; Stice, Presnell, & Bearman, 2001). Some theorize that gender differences in depression during adolescence are related to the stressful changes youth experience during early adolescence (Petersen et al., 1991). Petersen and colleagues found that experiencing peak pubertal change at least six months before or within six months of changing from elementary to middle school/junior high school was strongly related to depression and emotional tone for both genders. The authors suggested that since pubertal change and school change occur more often at similar times in girls, this suggests why girls may be more at risk for depression. They also indicated that these findings highlight the importance of developing

interventions for early adolescents when they are experiencing so many stressful changes during puberty to prevent future negative mental health outcomes.

Depressive Disorders

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; APA, 2000), there are three types of depressive disorders. These three types are bipolar disorders, depressive disorders, and mood disorders based on etiology. Bipolar disorders include episodes of depression as well as mania, whereas depressive disorders do not include manic episodes. Mood disorders based on etiology include Mood Disorder Due to a General Medical Condition and Substance-Induced Mood Disorder (APA). This review will focus on the category of depressive disorders.

There are three major depressive disorders which differ based on duration, symptom severity, and the presence of specific symptomatology (APA, 2000). People who have Major Depressive Disorder (MDD) experience at least one major depressive episode characterized by several severe depressive symptoms that last for two weeks or longer (see Appendix A). Dysthymic Disorder (DD) is similar to MDD but includes less depressive symptoms which are often not as severe, however, in order to meet criteria for DD depressive symptoms must be present for two years or longer in adults and one year or longer in children and adolescents (see Appendix B). The third depressive disorder, Depressive Disorder Not Otherwise Specified (DDNOS), is diagnosed when someone is experiencing features of depression but does not fully meet criteria for MDD, DD, Adjustment Disorder with Mixed Anxiety and Depressed Mood, or Adjustment Disorder with Depressed Mood (see Appendix C; APA).

Children and adolescents meet criteria for MDD when they experience one or more major depressive episodes (APA, 2000). These episodes involve experiencing a primary mood symptom of depressed mood, irritability, or anhedonia more often than not for a period of two weeks or more accompanied by four or more specific accompanying symptoms. These symptoms include concentration or thinking difficulties, trouble making decisions, guilt or feelings of worthlessness, a lack of energy or fatigue, sleep disturbance (insomnia/hypersomnia), psychomotor retardation or agitation, appetite or weight changes, or recurrent suicidal ideation, suicidal plans, or suicide attempts. In order to meet diagnostic criteria, the symptoms must have started occurring with the depressive episode or become worse compared to before the episode began. The youth must also be experiencing these symptoms almost every day for the majority of the day and the symptoms must create either impairment or distress in social, academic, occupational, or other areas of functioning. If the symptoms are a result of the physiological effects of a medical condition or substance, there is a history of a manic episode, or the symptoms fit better with the criteria for a Schizoaffective Disorder then the child does not meet criteria for MDD. In addition if the symptoms occur within the period of two months after the loss of a loved one, then the child does not meet criteria for MDD unless the symptoms are very severe. MDD in partial remission is diagnosed if the person has had a major depressive episode and some symptoms of the episode are still present but the person no longer meets the full criteria or if there are not any symptoms of an episode but the person has been without symptoms for less than two months (APA).

The diagnostic criteria for DD in children and adolescents include experiencing depressed mood or irritability more often than not for at least one full year (APA, 2000). The child or adolescent must also experience at least two other symptoms. These symptoms include sleep disturbance, lack of energy or fatigue, low self-esteem, concentration difficulties or trouble making decisions, hopelessness, or appetite disturbance and must cause impairment or distress in social, academic, occupational, or other areas of functioning. During this year long period, the youth cannot experience a symptom free period for more than two months and cannot experience a major depressive episode during the first year of experiencing Dysthymia in order to meet criteria. In addition, children and adolescents with a history of a Manic Episode, Cyclothymic Disorder, or depressive symptoms associated with a Psychotic Disorder do not meet criteria for DD. Depressive symptoms that are a result of the physiological effects of a medical condition or substance do not meet criteria for DD as well (APA).

The diagnosis of DDNOS is given when a person is experiencing depressive symptoms but the symptoms do not meet the diagnostic criteria for MDD, DD, Adjustment Disorder with Mixed Anxiety and Depressed Mood, or Adjustment Disorder with Depressed Mood (APA, 2000). Examples of this include a Minor depressive disorder that lasts for two weeks but has less than the five required symptoms (APA).

Youth meeting criteria for Adjustment Disorder with Depressed Mood also meet eligibility for this study. In order to meet criteria for an Adjustment Disorder, a person must develop symptoms as a result of a specific identifiable stressor and the symptoms must occur within three months of when the stressor began and end within six months of

when the stressor or consequences of the stressor are no longer present (APA, 2000; see Appendix D). The symptoms must either cause excessive distress that is more than expected as a result of the stressor or cause serious social, occupational, or academic impairment. If the symptoms from the stressor meet criteria for another Axis I disorder, are related to a previous Axis I or II disorder, or meet criteria for Bereavement then the person does not meet criteria for Adjustment Disorder. In order to meet criteria for an Adjustment Disorder with Depressed Mood, the emotional or behavioral symptoms the person is experiencing are usually symptoms such as hopelessness, depressed mood, or tearfulness (APA). Appendices A through D include more detailed information about the diagnostic criteria for the disorders discussed in this section.

Depressive Symptomatology in Children and Adolescents

Children and adolescents with depression experience similar symptoms to adults with depression, however, there are slight differences. According to the DSM-IV-TR, research suggests that depressive symptoms often change with age (APA, 2000). Certain depressive symptoms such as irritability occur more commonly in depressed children (APA). Depressed children often express their emotions with behavior problems or temper tantrums instead of talking about their feelings (AACAP, 1998). As a result, the DSM-IV-TR has a modification in the criteria for depressive disorders allowing children and adolescents to meet diagnostic criteria with a primary mood symptom of irritability (APA). In DD specifically, the diagnostic criteria for the length of the disorder differs for children and adults. In order to meet criteria, children and adolescents need to have

experienced symptoms for at least one year as opposed to the two years required for adults (APA).

Other symptoms that are common in depressed children but decrease with age are low self esteem, depressed appearance, and somatic complaints (Carlson & Kashani, 1988). Guilt also appears to be more common in depressed children and adolescents than adults (Mitchell et al., 1988). Depressed children have also been shown to exhibit more anxiety symptoms (AACAP, 1998).

Some depressive symptoms increase as people get older (Carlson & Kashani, 1988). Suicidal ideation, sleep and appetite disturbances, and delusions are all more common in adolescence than childhood (AACAP, 1998). Anhedonia is not very common among preschoolers with depression but the rate of anhedonia is much higher in children and continues to increase into adulthood. Hopelessness is not very common among children but becomes much more common in adolescence and even more common in adults (AACAP). Psychomotor retardation also increases with age being less common among children but increasing into adolescence and then adulthood (Carlson & Kashani). Depressed adolescents also seem to experience less neurovegetative symptoms than depressed adults (AACAP).

Some children and adolescents also experience psychotic symptoms as part of their depressive disorders. Approximately one third (27%-38%) of depressed youth experience hallucinations, which are most commonly auditory and are similar to the type of hallucinations experienced by depressed adults (Chambers, Puig-Antich, Tabrizi, & Davies, 1982; Mitchell et al., 1988). Although hallucinations appear among depressed

children and adolescents, the presence of hallucinations decreases with age appearing less commonly in adults (Carlson & Kashani, 1988). Delusions occur much less often in youth than hallucinations and they are found to appear in approximately 7% of depressed youth (Chambers et al.; Mitchell et al.). The presence of delusions increases with age and becomes more common in adulthood (Carlson & Kashani).

Suicidal ideation is also common among depressed children and adolescents and occurs in over 60% of depressed youth from preschool through adolescence (Kashani & Carlson, 1987; Mitchell et al., 1988; Ryan et al., 1987). Rates of suicidal ideation are similar between youth and adults but suicidal attempts appear to happen more often in children and adolescents with depression than in depressed adults (Mitchell, et al.).

Clinical Course

The clinical course of child and adolescent depressive disorders can be impacted by many different factors (Christner & Walker, 2007). These factors can alter the course and symptoms of depression. As a result, the clinical presentation of depression varies between different individuals (Christner & Walker). Research findings, however, have begun to shed light on some of the common characteristics of the experience of depression in youth. Research has suggested that the average age of MDD onset in community samples is between 14 and 15 years old and earlier onset is associated with being female (Lewinsohn et al., 1998). In addition, the median length of a depressive episode has been found to fall between seven and nine months for youth who are clinically referred and one to two months for community samples (AACAP, 1998). Research has also suggested that some possible predictors for longer depressive episodes

are comorbid psychiatric disorders, decreased social functioning, increased depression severity, negative life events, and parent psychopathology. The recurrence of depression is very common in youth and research with community and clinical samples have suggested that 20% to 60% of depressed youth experience recurrence within one to two years of remission and 70% experience recurrence after five years (AACAP).

Dysthymic disorder has an average length of three to four years and an average age of onset of 8.7 years in youth (Kovacs, Akiskal, Gastonis, & Parrone, 1994). Lewinsohn et al. (1998) reported that in adolescents, DD occurs much less often than MDD. Experiencing both MDD and DD in youth is relatively common and about 70% of people diagnosed with DD at a young age eventually experience MDD as well (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996). The presence of both MDD and DD is often referred to as "Double Depression" (Keller & Shapiro, 1982). Youth with "Double Depression" have been found to have more negative outcomes and shorter remission periods between major depressive episodes (Kovacs et al., 1994).

Research has produced some results suggesting that an earlier age of depression onset is related to longer depressive episodes (Kovacs et al., 1984; Lewinsohn et al.). Other findings, however, indicate that the age of onset is not related to the length of depression (McCauley et al., 1993).

Implications of Depression

Mental health intervention for children and adolescents with depression is important because research suggests that the presence of depression in childhood and adolescence is related to negative future outcomes (Fergusson & Woodward, 2002; OAS,

2006; Weissman et al., 1999). Depressed adolescents are more likely to experience social difficulties and academic and employment struggles in the future (Capaldi & Stoolmiller, 1999; Kandel & Davies, 1986; Weissman et al.). In addition, adolescent depression is related to psychopathology and depression recurrence in adulthood (Kandel & Davies; Lewinsohn et al., 1999; Rao et al., 1995). Research has also suggested that the outcomes of adolescent depression may be impacted by gender. For example, Kandel and Davies found that for females, depression in adolescence predicted experiencing psychiatric hospitalization sometime before early adulthood but this relationship was not found for depressed boys.

Weisman et al. (1999) found that depression in adolescence was related to social difficulties in adulthood across work, social, and family settings. Depressive symptoms in early adolescence have been found to be predictive of difficulties with peers in later adolescence (Capaldi & Stoolmiller, 1999). Adolescents with depression are also more at risk of experiencing school failure, are not as likely to participate in higher education, and are more likely to have experience with unemployment in late adolescence and early adulthood (Fergusson & Woodward, 2002).

Depression in youth has also been found to be related to substance use and dependence (Fergusson & Woodward, 2002; Kandel & Davies, 1986; OAS, 2006). The Office of Applied Studies (OAS) surveyed over 22,000 12-17 year old adolescents and learned that of the adolescents who reported having a major depressive episode in the past year, 19.8% suffered from illicit drug or alcohol dependence, 38% reported the use of illicit drugs in the past year, and 5.3% used cigarettes daily. Substance use in the

depressed adolescents was much more common than in adolescents who did not report depression. The answers of the non-depressed adolescents suggested that 6.9% of them were dependent on drugs or alcohol, 18% percent of them reported the use of illicit drugs sometime in the past year, and 2.5% reported using cigarettes daily. In addition, of the adolescents who reported experiencing alcohol or drug dependence, 21.7% reported experiencing a major depressive episode in the past year.

The risk of suicide is also a significant concern for depressed adolescents. Fergusson and Woodward's (2002) study found a relationship between depression at 14 to 16 years of age and suicidal behaviors at 16 to 21 years of age. In addition, Weissman et al.'s (1999) study included 73 adults who were depressed as adolescents and they found that 50.6% made a suicide attempt before they were assessed at follow-up, 22% reported multiple suicide attempts before follow-up, and seven of their original group of 91 adolescents had committed suicide by the time of follow-up. Suicide is a very significant concern in our current society given that the risk of suicide in adolescence has increased four fold since 1950 and 12% of deaths among adolescents can be attributed to suicide (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996).

Rao et al. (1995) and Lewinsohn et al. (1999) determined that adolescent depression was related to future psychopathology when they looked at psychopathology in adults who were depressed in adolescence. Rao et al. followed up with 12 to 18 year old depressed and non-depressed adolescents when they were adults. They found that the depressed adolescents were more likely to have experienced new episodes of depression, dysthymic disorder, and bipolar disorder during the follow-up period than the non-

depressed adolescents. Lewinsohn et al. compared adult psychopathology in four groups of participants. The groups included adults who had four different types of psychopathology in childhood or adolescence; MDD, Adjustment Disorder with Depressed Mood, a non-affective disorder, or no psychiatric disorder. The MDD group had a significantly higher prevalence of MDD in adulthood than those in the non-affective disorder and the no diagnosis group. The researchers found that 45% of the adolescents with MDD experienced depression recurrence when they were between 19 and 24 years old.

Assessing Depression in Youth

There are many different methods used to assess depression in youth. The most common measures of depressive symptoms and diagnoses are self-report questionnaires, observational methods, ratings scales completed by parents and teachers, projective techniques, and diagnostic interviews. Self-report measures of depressive symptoms are often used to screen youth for psychopathology and to monitor progress during therapy (Lewinsohn et al., 1998). The Children's Depression Inventory (CDI; Kovacs, 1981) and the Beck Depression Inventory for Youth (BDI-Y; Beck, Beck, & Jolly, 2001) are common self-report instruments used to screen for depressive symptoms in research. In addition, diagnostic interviews such as the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS-IVR; Ambrosini & Dixon, 2000) are often used to determine depressive diagnoses in youth.

Self report measures are often effectively used to screen depressive symptoms quickly and efficiently, monitor symptom improvement, and determine the severity of

specific depressive symptoms (Birmaher, Ryan, Williamson, Brent, & Kaufman, 1996). These authors explain, however, that self-reports are not designed to diagnose depression. Although popular measures such as the CDI have shown good reliability, they have not produced results suggesting they are able to accurately discriminate between non-depressed and depressed children (Stark, 1990). In addition, self report measures do not provide enough data to determine whether a child or adolescent meets criteria for a depressive disorder (Klein et al., 2005). Semi-structured clinical interviews provide much more detailed information that allows a clinician to more accurately determine the presence and severity of a depressive disorder (Stark). In addition, Lewinsohn et al. (1998) recommend using a semi-structured assessment tool when assessing depression because these measures can provide information about many different psychiatric disorders which is important since comorbidity is so common in depressed youth.

Lewinsohn et al. (1998) suggest that the assessment of psychopathology in youth needs to include multiple informants because children who are young may not have the ability to provide certain information reliably or validly and children may minimize or deny symptoms that are undesirable. Adults may not know about all of the situations in which the behavior occurs since they are often not present in every setting or situation. In addition, adults and children may have different beliefs about what level of behavior is a problem (Lewinsohn et al.). These researchers found that agreement between adolescents and their parents was low when determining the presence of MDD and parents reported lower rates than their children. Achenbach, McConaughy, and Howell (1987) completed a meta-analysis of consensus in ratings from multiple informants. They found that the

mean correlation between parent and youth reports of adjustment in the youth was .25. These researchers also suggested that there is less consensus between parents and children on internalizing symptoms than externalizing symptoms. Children have been reported to be more accurate reporters of subjective symptoms such as worthlessness, anhedonia, and sadness (Kendall, Cantwell, & Kazdin, 1989) but less accurate reporters of the duration and onset of symptoms (Stark, Sander, Yancy, Bronik, & Hoke, 2000). Therefore, in order to provide the most accurate assessment of depression in youth it is important to integrate both parent and child reports of symptoms. Clinicians must often rely on their clinical judgment to determine which informant is the more accurate reporter when reports are inconsistent between parent and child (Klein, Dougherty, & Olino, 2005).

Combining different methods of assessment through the use of a multiple gate procedure has been suggested to be an accurate, efficient, and effective way to identify youth that are clinically depressed in school settings (Reynolds, 1986). According to Reynolds, three stages of assessment should be used in the multiple gate procedure. The first stage involves using a self report measure of depression to screen a large group of youth for depressive symptoms. The next stage involves identifying those youth who scored above a specific cutoff on the self report measure and reassessing them with the same self report measure from three to six weeks later in order to determine whether the youth's distress was not just specific to the day they were assessed. The last stage involves identifying the youth who still scored above the cutoff in the second assessment of the self report measure and conducting diagnostic interviews with those youth. The

current study will use a modification of the procedure outlined by Reynolds. Youth that score above the cutoff on the first self report measure will be administered a brief DSM-IV symptom interview on the same day they complete the first questionnaire instead of completing the self report measure for the second time three to six weeks later. The interview was used instead of the second self report measure in order to provide the most ethical treatment of the participants. The brief symptom interview often allowed youth to talk about possible suicidal ideation, self harm behaviors, or abuse and it was imperative that the youth in significant distress receive a full assessment of their depressive symptoms as soon as possible rather than waiting three to six weeks.

Summary of Depression in Youth

Depressive disorders are common in youth (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996) which is a serious concern given that child and adolescent depression has been found to be a debilitating disorder that is associated with many negative outcomes (Lewinsohn et al., 1998) including future psychopathology (Rao et al., 1995). Depression is especially common in females and the lifetime risk of major depression for females is twice that of males (APA, 2000). In addition, early adolescence appears to be a significant period in the development of depression. The overall rate of depression drastically increases between early and late adolescence (OAS, 2006; Saluja et al., 2004) and the gender difference in depression also first appears during this age period (Hankin et al., 1998) suggesting that girls are especially vulnerable to depression at this time.

Many different theories have emerged to explain the gender difference in depression and these have included theories about differences in boys and girls that make girls more vulnerable to stress and depression (Petersen et al.'s 1991; Nolen-Hoeksema, 1987). These theories suggest that boys and girls have differences in coping and cognitive styles (Hankin & Abramson, 2002; Nolen-Hoeksema), different levels of self-esteem and body image (Allgood-Merten et al., 1990; Cole et al., 2001), and different levels of stress during puberty (Petersen et al.).

There are many different methods used to assess depression in youth including self-report questionnaires, observational methods, ratings scales completed by parents and teachers, projective techniques, and diagnostic interviews. Different assessment methods may be most useful depending on the purpose of the assessment. Self report measures can be effectively used to screen depressive symptoms quickly and efficiently, monitor symptom improvement, and determine the severity of specific depressive symptoms (Birmaher, Ryan, Williamson, Brent, & Kaufman, 1996). Self report measures, however, do not have the discriminant validity necessary to diagnose depression (Stark, 1990) and they do not provide enough data to determine whether a child or adolescent meets criteria for a depressive disorder (Klein et al., 2005). In order to more accurately determine the presence and severity of a depressive disorder, semi-structured clinical interviews are much more useful (Stark, 1990). In addition, semi-structured assessments can provide information about comorbid disorders which is important given that comorbidity is so common in depressed youth (Lewinsohn et al., 1998). Using multiple informants is also important in the assessment of depression

(Lewinsohn et al.). Parents and children, for example, may each be better reporters of different information (Kendall et al., 1989; Stark et al., 2000). By collecting information from both parents and children a clinician can integrate this information to make a more accurate assessment. When reporters are inconsistent, clinicians must rely on their clinical judgment to make a determination (Klein et al.). In order to identify clinically depressed youth in large groups of children or adolescents, such as school settings, the use of a multiple gate procedure which combines different methods of assessment has been suggested to be an accurate, efficient, and effective technique (Reynolds, 1986).

In summary, the research on depression suggests that depression is a common disorder in youth and is related to many negative outcomes. Girls appear to be especially vulnerable to depression and early adolescence seems to be a critical period in the development of depression especially among girls. This suggests the need for research to better understand how to treat depression in early adolescent girls.

Treatment of Child and Adolescent Depression

Overview of the Treatment of Child and Adolescent Depression

Research on the prevalence of depression in youth (OAS, 2006) and the negative outcomes associated with depression (Fergusson & Woodward, 2002; OAS; Weissman et al., 1999) suggests the need for early therapeutic mental health intervention for youth with depression. Early effective interventions for youth with depression are necessary in order to improve the quality of life of these youth, provide relief from depressive symptoms, and have positive effects on the course of depression through the lifetime (Brooks & Kutcher, 2001). Birmaher, Ryan, Williamson, Brent, and Kaufman (1996)

reviewed the literature on the treatment of depression and explained that research findings suggest that psychotherapy, especially CBT, seems to be an effective initial treatment for depressed children and adolescents. Reviews of child and adolescent depression research suggest that CBT is both the most frequently investigated and the most empirically supported treatment for this population (Curry, 2001). Research has also supported interpersonal psychotherapy as an efficacious treatment for youth (Curry), however, these studies have focused solely on older adolescents and this treatment has not been investigated with children.

Cognitive Behavioral Models and Interventions

Aaron T. Beck developed cognitive therapy in the 1960's (Beck, 1995). The therapy was developed to be a short term-therapy for depression (Beck, 1964) but since it's development, cognitive therapy has been adapted to be used with many different populations (Beck, 1995). According to Beck, Rush, Shaw, and Emery (1979), cognitive therapy is structured, time limited, active, and directive and it can be used as an intervention for many different psychiatric disorders such as depression and anxiety. Although cognitive therapy has been adapted in many ways, the interventions are still based on the same theory (Beck, 1995). Cognitive therapy is based on the theory that the way someone behaves and feels is significantly impacted by the way they view and organize the world (Beck, 1976). The person's beliefs or assumptions which Beck calls "schemas" influence the person's cognitions or thoughts (Beck et al.). People begin to develop beliefs (schemas) about the world, themselves, and others when they are children and these include beliefs that become central to the way they view the world called core

beliefs (Beck, 1995). These core beliefs impact the creation of other assumptions, rules, and attitudes called intermediate beliefs. The intermediate beliefs impact the automatic thoughts people have which then influence the person's emotions and their behaviors. People with psychological disturbance have distorted thoughts and schemas and those negative cognitions then impact their affect and behavior (Beck, 1995).

The goals of cognitive therapy are to identify cognitive distortions and maladaptive schemas and then test and correct these cognitions and beliefs (Beck et al., 1979). The therapist works with the client to change their thinking about certain situations and their own difficulties which allows them to take charge of problems they thought they could not solve and develop a more realistic view of themselves. These changes in thinking are then expected to lead to symptom reduction. Clients are specifically taught to develop an awareness of their negative thoughts, to test their negative thoughts using evidence, and to replace distorted thoughts with more realistic thoughts. They are also taught to understand that thoughts, feelings, and behaviors are related. Through therapy clients are encouraged to become aware of their distorted beliefs and how those beliefs change how they perceive their world and then work to change those beliefs (Beck et al.).

There have been many different cognitive theories and interventions that have been developed from Beck's early work but a discussion of all of these models is beyond the scope of this review. The specific intervention used in this study is based upon an integration of cognitive and attachment theories (Stark et al., 1999). Stark et al. suggest that Beck's (1967) cognitive model of depression can be integrated with attachment

theory to create a possible explanation for why depression develops during childhood. In Stark et al.'s overview of the cognitive model they explain that in people with depression, stressful events activate cognitive distortions. These cognitive distortions are activated by core beliefs or schemas about the self, world, and future which filter how information is attended to, perceived, and interpreted. The self schema is believed to be the most central schema and in people with depression this schema is based upon a belief that they are unlovable or is based upon a sense of loss. The self-schemas of people with depression are also unrealistically negative. The self schema of a child impacts how they perceive their world and experiences and is also developed according to these experiences. Research has suggested that depressed youth have a lack of a positive self schema. If this is true and the self schema influences how information is processed then these youth will process less positive information about themselves. This lack of positive information will continue to negatively influence their core schemas about themselves, the world, and the future and lead to depressive symptoms (Stark et al.).

Attachment theory is integrated with cognitive theory to help explain how these core schemas develop. Stark, Schmidt, and Joiner (1996) suggest that youth may internalize messages they receive from their parents and use those to develop their core schemas about the self, world, and future. According to attachment theory, interactions between children and caretakers are thought to be the basis of the "internal working model" of a child (Bowlby, 1980). This internal working model is an understanding of the self, others, and the relationship between a child and caregiver and guides how the person continues to interact with and relate to others (Berman & Sperling, 1994). The

internal working model is equivalent to the idea of a core schema in cognitive theory (Stark et al., 2006). Based upon these theories, the interaction between an individual and their caregivers heavily influences the model that an individual uses to interpret the world around them. Cognitive theories suggest that internal models or core schemas are related to the experience of depressive symptoms (Stark et al., 1999). Therefore it is not surprising that insecure attachment may be a risk factor for developing a depressive thinking style, decreased emotional regulation abilities, and a deficit in reliance on social support which are all risk factors for developing depression (Stark et al., 2006) This link between attachment and cognitive theories emphasizes the impact that parent and child relationships can have on depression. An integration of the cognitive and attachment models suggests that both cognitions and the interpersonal context in which these cognitions are created and maintained are both integral when conceptualizing and treating depression in youth (Stark et al, 1999).

Cognitive Behavioral Interventions with Youth

Cognitive behavioral interventions for youth with depression can include a variety of different components (Stark et al., 2006) but they are all based upon the goal of having clients develop skills that help them to change both their behaviors and cognitions in order to improve their moods (Compton et al., 2004). The CBT therapist creates a collaborative relationship with participants to assist them in developing different ways to think and act, decreasing their depressive symptoms, and reducing their risk of depression recurrence (Compton et al.). The skills that the therapist helps the youth to develop include regulating emotions, coping, social skills, developing effective problem-solving

skills, learning to restructure negative thoughts and beliefs, developing positive views of oneself and the future, and learning to associate positive results with global, stable, and internal causes (Compton et al.; Stark et al.). The therapist also teaches the participant about depression and supports the participant in creating and making progress on individual goals (Compton et al.). Parent components are also sometimes part of a CBT intervention and often focus on training the parents in positive reinforcement, effective communication, parenting techniques, increasing the number of pleasant activities the family does together, and helping them to develop a positive environment within the family (Compton et al.).

Efficacy of Cognitive Behavioral Therapy in Treating Child and Adolescent Depression

Research results suggest that CBT is an effective treatment for depressed youth and a meta-analysis by Reinecke, Ryan, and Dubois (1998) found a moderate to large effect size for post-test scores from CBT trials with depressed adolescents. Studies evaluating the use of CBT with young adolescents and children have shown that CBT is superior to no treatment (Asarnow, Scott, & Mintz, 2002; Butler, Miezitis, Friedman, & Cole, 1980; De Cuyper, Timbremont, Braet, De Backer, & Wullaert, 2004; Stark, Reynolds, & Kaslow, 1987; Weisz, Thurber, Sweeney, Proffitt, & LeGagnoux, 1997) and attention control groups (Butler et al.). Liddle and Spence (1990) did not find that CBT was superior to no treatment or an attention control group, however, their small sample size limited the power of their analyses. In addition, their results indicated that the CBT group showed twice as much reduction in symptoms than the other groups.

Several studies have evaluated a cognitive behavioral treatment program called the Adolescent Coping with Depression Course (CWD-A; Clark, Lewinsohn, & Hops, 1990) with depressed adolescents (Clarke et al., 1995; Clark et al., 2001; Clark et al., 2002; Clark, Rohde, Lewinsohn, Hops, & Seeley, 1999; Lewinsohn, Clarke, Hops, & Andrews, 1990). Treatment outcome studies suggested this treatment was effective when used with adolescents alone or when combined with parent training (Clark et al., 1999; Lewinsohn et al., 1990). This treatment was also found to be effective for preventing depression in at risk adolescents (Clarke et al., 1995; Clark et al., 2001). Clark et al. (2002), however, compared the CWD-A treatment to a treatment as usual condition and did not find significant differences in terms of depressive symptoms, depressive diagnoses, or functioning scores between the two groups.

Research has also been completed comparing CBT with other treatments. Studies have suggested that CBT is superior to traditional school counseling groups (Stark, 1990), systemic behavioral family therapy, and nondirective supportive therapy (Brent et al., 1997). Results from a study by Vostanis, Feehan, Grattan, and Bickerton (1996) suggested that CBT was not superior to non-focused supportive therapy but their results may be questionable since the treatment received as part of this study consisted of only two to nine therapy sessions given over one to five months. The Treatment for Adolescents with Depression Study (TADS) Team (2004) compared fluoxetine pharmacological treatment, CBT, a combination of both, and a control placebo group for depressed adolescents. They found that the combination of fluoxetine and CBT produced the most improvement. CBT was found to be less effective than fluoxetine and not

superior to the placebo group after 12 weeks of treatment. Kuehn (2007), however, cited research from the TADS team who reported new findings at the annual meeting of the American Academy of Child and Adolescent Psychiatry in 2005. These results suggested that after receiving 18 weeks of treatment, youth receiving CBT alone had just as much treatment response as those receiving fluoxetine and after 36 weeks of treatment the youth who received CBT alone had a treatment response that was comparable to the participants who received both CBT and fluoxetine. Rosello and Bernal (1999) compared individual CBT to interpersonal therapy and a control condition and found that the two treatments were equally efficacious and both were superior to the waitlist control condition. The results of this study were limited, however, due to a small sample size and outcome measures that were based on only self-report data. In addition, Stark et al. (2006) explained that the generalizability of the study by Rosello and Bernal may have been impacted by their use of a nonstandard CBT treatment protocol.

Others have compared full CBT interventions to relaxation training which is one component of CBT programs. Kahn, Kehle, Jenson, & Clark (1990) compared three interventions; CBT, relaxation only, and self modeling only, to a waitlist control. They found that all three interventions were superior to the control condition but there were no significant differences between the interventions. Reynolds and Coats (1986) compared CBT, relaxation training, and a waitlist control condition. Both the CBT and relaxation training showed significantly better results than the control condition but there was no difference between the treatments. Wood, Harrington, and Moore (1996), however, found

that CBT was superior to relaxation training in terms of self-esteem, reductions in symptoms, global functioning, and patient satisfaction.

Birmaher, Ryan, Williamson, Brent, and Kaufman (1996) suggest that determining whether to include parents in the treatment of children and adolescents with depression is important because research has suggested that the families of youth who are depressed often have high rates of conflict and parental psychopathology (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996). Although several CBT studies included parent components, only two directly compared a parent training plus child CBT treatment condition with a child CBT only condition (Clarke et al., 1999; Lewinsohn et al., 1990). These studies found that although there was some more diagnostic improvement among youths in the CBT and parent training group, the differences were not statistically significant between the two groups. Lewinsohn et al.'s study, however, found that the parents of youth in the parent training condition saw their children more positively at the end of treatment than the parents of youth in the group without parent training.

Summary of the Treatment of Child and Adolescent Depression

Developing early effective interventions for depressed youth is important in order to provide these youth relief from their current depressive symptoms, improve their quality of life, and positively impact their future development (Brooks & Kutcher, 2001). Research on treating depression in youth suggests that psychotherapy is an effective initial treatment for depressed children and adolescents (Birmaher, Ryan, Williamson, Brent, & Kaufman, 1996). Reviews of psychotherapy treatment studies for children and

adolescents with depression suggest that CBT is both the most frequently investigated and the most empirically supported treatment for this population (Curry, 2001). Studies have generally found that CBT is superior to no treatment for young adolescents and children with depression (Asarnow et al., 2002; Butler et al., 1980; De Cuyper et al., 2004; Stark et al., 1987; Weisz et al., 1997). CBT programs for older adolescents that either involve group therapy for adolescents only or group therapy and an additional parent training component have been found to be effective as well (Clark et al., 1999; Lewinsohn et al., 1990). When compared to other treatments, CBT has been generally found to be as effective (Kahn et al., 1990; Reynolds & Coats, 1986; Rosello and Bernal, 1999) or more effective (Brent et al., 1997; Stark, 1990; Wood et al. 1996) at reducing depressive symptoms or diagnoses.

Since research has suggested that the families of youth who are depressed often have high rates of conflict and parental psychopathology (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996), researchers have tried to determine whether adding a parent training component to CBT interventions for youth increases the efficacy of the interventions. Only two studies directly compared a CBT plus parent training component condition with a CBT only condition and both were with older adolescents (Clarke et al., 1999; Lewinsohn et al., 1990). These studies found that although there was some additional diagnostic improvement among youths in the parent training group, the differences were not significant between the two groups. Lewinsohn et al.'s study, however, found that the parents of youth in the parent training condition saw their

children more positively at the end of treatment than the parents of youth in the group without parent training.

Overall, research suggests that CBT is generally an effective treatment for children and adolescents with depression. There is, however, a paucity of research investigating whether adding a parent training component to a CBT intervention enhances efficacy, so it is important to increase research in this area.

Depression and Comorbidity in Youth

Overview of Comorbidity

It has been recognized for a long time that the presence of more than one disorder at the same time can serve to make both diagnosis and treatment more complex (Angold & Costello, 1993). This simultaneous presence of two or more conditions that are unrelated is referred to as comorbidity (Caron & Rutter, 1991). According to research on child psychiatric disorders, comorbidity is very common and the rate of comorbidity in epidemiological studies is more than double the rate expected by chance (Caron & Rutter). Comorbidity is especially common in depression and it has been recognized in the literature that in depressed youth comorbidity is the rule not the exception (Hammen & Rudolph, 2003). Depressed youth commonly experience comorbidity with anxiety disorders, attention deficit disorders, substance use disorders, eating disorders, and disruptive disorders (Hammen & Rudolph). Research suggests that depressed children with comorbid disorders are often more at risk for negative outcomes including higher depression severity, poorer overall functioning, increased suicidal ideation, increased suicidal attempts, lower treatment response, and future psychopathology (Brent et al.,

1998, Clarke et al., 1992, Curry et al., 2006; Ghaziuddin et al., 2000; Lewinsohn et al., 1999; Lewinsohn, Rohde, & Seeley, 1995; McCauley et al., 1993; Rohde et al., 2001; Rohde, Lewinsohn, & Seeley, 1991).

Prevalence of Comorbidity in Depressed Youth

Research studies have suggested that 40% to 90% of children and adolescents with MDD have comorbid psychiatric disorders and two or more comorbid diagnoses occur in 20%-50% of these youth (AACAP, 1998). Dysthymia and anxiety disorders are the most common comorbid diagnoses and both occur in 30% to 80% of youth with MDD. Disruptive disorders occur in 10% to 80% of depressed youth and substance use disorders in 20% to 30% of these youth. It is most common for MDD to begin after the comorbid conditions except in the case of substance abuse and occasionally conduct problems. Youth with DD also often experience comorbid disorders. Approximately 70% of children and adolescents with DD have comorbid MDD, 40% have anxiety disorders, 30% have conduct disorder, 24% have attention deficit disorders, and 15% experience enuresis or encopresis. Approximately 15% of youth with DD have at least 2 comorbid disorders (AACAP).

Comorbidity and Research

Although the previous data indicate that comorbidity is a common phenomenon, Caron and Rutter (1991) explained that research has largely ignored the subject of comorbidity until recently. They described how excluding comorbidity from studies can have a substantial impact on research findings. For example, when participants with comorbid disorders are included in a study but comorbidity is not directly investigated

then it is unclear whether the results of the research are due in part to the comorbid disorders rather than the disorder under investigation. Conversely, when researchers exclude participants with comorbid disorders they are likely to end up with small samples that are not representative of the wider population since comorbidity is such a common phenomenon (Caron & Rutter).

Although Caron and Rutter (1991) make a strong argument for the necessity of investigating comorbidity, they also explained that there are many complications and issues surrounding comorbidity that make the study of it complex and challenging. According to their review, there is much debate about the existence of true comorbidity. They explained that there is some speculation that the high rates of comorbidity that have been found are actually the result of the artificial creation of categories of mental illness. According to this belief, psychopathology is a mix of different personality and behavioral factors rather than concrete categorical disorders and many of these factors are the same across different categories of mental disturbance making it seem like people have comorbid disorders. Other arguments against comorbidity are based on the idea that one specific disorder can look different during various stages of the disorder making it seem as if different disorders are occurring when they are not. Similar arguments have also been made that some disorders include symptomatology of other disorders in their criteria making it seem as if people are experiencing both disorders (Caron & Rutter).

Caron and Rutter (1991) also presented possible explanations for the occurrence of true comorbidity. They suggested that comorbidity can occur as a result of common risk factors for different disorders or risk factors that commonly occur together but result

in different disorders. In addition, they indicated that some disorders create risk factors for other disorders thereby increasing the chance of developing a comorbid disorder in the future. They also explained that another argument for true comorbidity results from research suggesting that comorbid disorders can sometimes influence the course or treatment outcome of a primary disorder, which means that those comorbid disorders inherently change the meaning of the original disorder (Caron & Rutter).

Comorbidity Terminology

There have been many types of comorbidity investigated in research and these types can be defined based upon the temporal relation between the disorders and the similarity of the comorbid conditions (Angold, Costello, & Erkanli, 1999). The temporal relation of the comorbid conditions determines whether the comorbidity is "concurrent" or "successive". "Concurrent comorbidity" occurs when multiple comorbid conditions occur at the same time and "successive comorbidity" occurs when a person experiences comorbid conditions but the conditions are not present at the same time. Research with children who meet diagnostic criteria for both anxiety and depression when they are assessed at one time point such as those children in this study are considered to have "concurrent comorbidity." The similarity of the comorbid disorders determines whether comorbidity is "homotypic" or "heterotypic". "Homotypic comorbidity" occurs when the comorbid disorders are part of one major diagnostic category. The comorbidity of MDD and DD is an example of this type of comorbidity. "Heterotypic comorbidity" refers to comorbidity between conditions from different diagnostic categories (Angold et al.,

1999). The comorbidity of depressive and anxiety disorders, which is the focus of this study, is an example of this type of comorbidity.

Gender Differences in Comorbidity

Research suggests that comorbidity in youth with depression differs by gender (Lewinsohn et al., 1995). These authors found that in depressed youth, disruptive disorders were more common comorbid conditions in boys and comorbid anxiety was more common in girls. Depressed girls also experience lower rates of comorbid externalizing and substance use disorders than boys but higher rates of eating disorders (Kovacs, Obrosky, & Sherrill, 2003). The presence of multiple comorbid anxiety disorders in depressed youth has also been found to be much more common in females than males (Lewinsohn, Zinbarg, Seeley, Lewinsohn, & Sack, 1997). In addition, research by Kovacs et al. suggests that boys and girls have different rates of comorbid disorders at different stages of development. For example, the rate of externalizing disorders peaks around ages 13 to 15 for girls, which is earlier than the peak for boys.

Summary of Depression and Comorbidity in Youth

Comorbidity among people with depression is very common and most people with depression experience one or more comorbid psychiatric disorders during their lives (Rohde et al., 1991). Depressed youth with comorbid disorders are often more at risk for negative outcomes (Brent et al., 1998, Clarke et al., 1992, Lewinsohn et al., 1999). In addition, comorbidity can make it more difficult to accurately identify depression in youth (Stark et al., 2006).

Research suggests that comorbidity in youth with depression differs between boys

and girls (Lewinsohn et al., 1995). Disruptive disorders and substance use disorders are more common conditions in depressed boys and anxiety disorders and eating disorders are more common comorbid conditions in depressed girls (Kovacs et al., 2003; Lewinsohn et al., 1995). The presence of multiple comorbid anxiety disorders in depressed youth has also been found to be much more common in females than males (Lewinsohn et al., 1997). The high rates of comorbidity among depressed youth and the negative outcomes associated with the presence of comorbidity suggest the need to understand more about the impact of comorbidity on children and adolescents with depression.

Depression and Anxiety Comorbidity

Overview of Depression and Anxiety Comorbidity

Research has suggested that in people with depression the most common comorbid disorder is anxiety (Garber, 2006). Comorbid anxiety appears to be especially prevalent in females (NIMH, 2003). For both genders the risk of comorbid anxiety declines between ages 12 and 13 to 15 and then is stable through young adulthood (Kovacs et al., 2003). Research by Kovacs et al. (1989) also suggested that for children with depression, if comorbid anxiety develops it is likely to develop by age 12 suggesting that children and young adolescents are definitely at risk for comorbid anxiety and depression. In fact, anxiety has been suggested to be a risk factor for developing later depression (Breslau, Schultz, & Peterson, 1995; Cole, Peeke, Martin, Truglio, & Seroczynski, 1998; Flannery-Schroeder, 2006).

Prevalence

Garber's (2006) review of the literature on the comorbidity of anxiety and depression suggests that between 30% to 75% of depressed preadolescents and 25% to 50% of depressed adolescents experience comorbid anxiety. NIMH (2003) suggested that depressed youth experience anxiety disorders about eight times as often as youth without depression. In fact, depression and anxiety occur together so often that some people have theorized that they may actually be the same disorder (Finch, Lipovsky, & Casat, 1989). Since anxiety has been found to usually precede depression (Kendall et al., 1992), some theories have suggested that anxiety and depression are the same disorder that is expressed differently over the course of development (Finch et al., 1989). Stark et al. (2006) suggest that differences in the presence of positive affect help to discriminate between the two disorders. Both disorders include the presence of negative affect, but a deficit in positive affect occurs in depression but not anxiety. This difference in positive affect between the two disorders is the major premise behind the tripartite model developed by Clark and Watson (1991).

Differentiating Between Depression and Anxiety

Tripartite Model. The tripartite model provides a theoretical model for differentiating between depression and anxiety (Stark et al., 1999). This model developed by Clark and Watson (1991) is based upon the premise that depression and anxiety have a common component which is a high level of negative affect but also have other components unique to each disorder. This model suggests that people with anxiety have high levels of physiological hyper arousal and people with depression have low levels of

energy, engagement, and interest or a lack of positive affect. Empirical support for this model has been established for both youth (Joiner, Catanzaro, & Laurent, 1996; Lonigan, Carey, & Finch, 1994) and adults (Clark, Steer, & Beck, 1994; Watson et al., 1995).

Beck's Cognitive Model. The cognitive model developed by Beck (1976) suggests that emotional disorders have specific cognitions associated with them which allow for a differentiation between disorders which is referred to as the cognitive-content specificity hypothesis. This hypothesis is based upon the premise that anxiety and depression exhibit differences in cognitions. Cognitions in anxiety are often focused on internal and/or external threat or danger and cognitions in depression often focus on loss (Beck). This model suggests that even if the behavioral symptoms are similar between anxiety and depression the cognitions are the basis of these disorders and these cognitions are different between the two disorders (Stark et al., 1999). Jolly, Dyck, Kramer, and Wherry (1994) integrated the cognitive content specificity model with the tripartite model to see if this integrated model could discriminate between anxiety and depressions. They found that in adult psychiatric outpatients, combining negative affect and anxious cognitions predicted anxiety symptoms and negative affect, low positive affect, and depressive cognitions predicted depressive symptoms.

Stark and Laurent (2001) also found that there were unique factors that differentiated depression and anxiety in youth when they did a joint factor analysis of the Children's Depression Inventory (CDI; Kovacs, 1981) and the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978, 1985) which are self report measures used to identify anxious and depressed youth. They found a nine item

depression factor that was based mostly on items associated with a negative view of oneself which fits with Beck's (1967) theory that depression is caused by the presence of a negative view of oneself, the world, and the future. They also found a seven item anxiety factor consisting of items focused on worry which has been identified as a significant symptom of anxiety in children (Laurent, Landau, & Stark, 1993; Silverman, La Greca, & Wassertein, 1995).

Anxiety Disorders

The DSM-IV-TR includes diagnostic criteria for many different anxiety disorders (APA, 2000). According to Kendall et al. (1991), clinical interviews, such as the K-SADS, are one of the most common methods used to assess the presence of anxiety disorders in youth. This review will focus on only the anxiety disorders that are included in the K-SADS-IVR (Ambrosini & Dixon, 2000). These disorders include Generalized Anxiety Disorder (GAD), Panic Disorder, Separation Anxiety, Specific Phobia, Social Phobia, Obsessive Compulsive Disorder (OCD), and Post Traumatic Stress Disorder (PTSD). Anxiety Disorder Not Otherwise Specified (ADNOS) and Adjustment Disorder with Anxiety will also be discussed since these diagnoses can be determined based on the symptoms covered in the K-SADS-IVR.

In order to meet diagnostic criteria for GAD, a person must experience worry and anxiety that is excessive and difficult to control (APA, 2000; see Appendix E). The anxiety must occur more often than not for 6 months or more about many different activities or events. An adult must also experience at least three symptoms related to the anxiety, however, a child must only experience at least one symptom. The symptoms

must have occurred more often than not for the past 6 months. These symptoms include sleep difficulty, irritability, muscle tension, becoming easily fatigued, restlessness, or concentration difficulties. The physical symptoms, anxiety, or worried feelings must be causing significant impairment or distress in academic/occupational, social, or other types of functioning. If the anxiety is about symptoms or features of another Axis I disorder or is due to the effects of a medical condition or substance, or occurs exclusively during a Psychotic Disorder, Pervasive Developmental Disorder, or Mood Disorder, then the person does not meet diagnostic criteria for GAD (APA).

The diagnostic criteria for Panic Disorder include the presence of Panic Attacks that are both unexpected and recurrent (APA, 2000; see Appendix G). In addition, after one or more of the attacks the person must experience at least one month of worry about the occurrence of another attack or the consequences of the attacks, or a significant change in behavior due to the attacks. Panic Attacks include a specific period of extreme anxiety, fear, or discomfort when there is no actual danger that occurs with at least four cognitive or somatic symptoms. These symptoms include fear of dying, numbness or tingling, chills or hot flushes, trembling, feeling short of breath or smothered, feeling like one is choking, sweating, nausea or abdominal discomfort, depersonalization or derealization, heart palpitations or increased heart rate, chest pain or discomfort, feeling lightheaded or dizzy, or fear of losing control. If the panic attacks result from a medical condition or substance or another psychiatric disorder, then the child does not meet criteria for Panic Disorder (APA).

Separation anxiety involves anxiety that is excessive and developmentally inappropriate related to being separated from home or attachment figures (APA, 2000; see Appendix H). Three or more symptoms must occur related to this anxiety. These symptoms include excessive distress that is recurrent and happens when the person anticipates being separated from home or major attachment figures or is separated from them, anxiety that is excessive and persistent and is related to the loss of a major attachment figure or harm to that person, worry about an event that would end in separation from an attachment figure such as being kidnapped or getting lost, refusal or reluctance to attend school or go somewhere else because of worry about separation, anxiety or reluctance about being without major attachment figures or alone at home or in other places, refusal or reluctance to sleep without being close to an attachment figure or without being home, nightmares about separation, or physical complaints when separation is anticipated or occurs. These symptoms must occur for four or more weeks and must begin before eighteen years of age. The symptoms must also cause significant impairment or distress in social, academic/occupational, or other areas of functioning. In order to meet criteria, the symptoms cannot occur only during the course of a Psychotic Disorder or a Pervasive Developmental Disorder (PDD) and cannot be due to Panic Disorder With Agoraphobia in adolescents and adults. If onset occurs prior to six years of age, the disorder is labeled Early Onset (APA).

Specific Phobia is diagnosed based on the presence of an excessive or unreasonable marked and persistent fear that is caused by the anticipation of or presence of a specific situation or object (APA, 2000; see Appendix I). Being exposed to the

feared object or situation causes an anxious response that is immediate and may be similar to a panic attack. The anxiety response in children can involve tantrums, freezing, clinging, or crying. The person must realize that the fear is unreasonable or excessive, although children do not need to meet this criterion. Either the person avoids the feared stimulus or experiences extreme stress or anxiety when exposed to it. The distress during exposure, the fearful anticipation of encountering the stimulus, or the avoidance of the stimulus must create significant interference with the person's academic/occupational functioning, daily routine, social functioning, or else create intense anxiety about the presence of the phobia. There are five subtypes of Specific Phobia based upon the feared stimulus, these include Animal Type, Natural Environment Type, Blood-Injection-Injury Type, Situational Type, or Other Type. In order to meet diagnostic criteria, the phobia must occur for at least six months in children and adolescents. If the panic attacks, anxiety, or avoidance are caused by another psychiatric disorder, then the child does not meet criteria for Specific Phobia (APA).

Social Phobia is diagnosed based on a persistent fear of at least one performance or social situation (APA, 2000; see Appendix J). These situations involve experiences where the person is either around people who are unfamiliar or exposed to possible scrutiny by people. The person is afraid that they will behave in an embarrassing way and they either avoid the feared situation or experience intense anxiety or distress in the situation. To meet criteria, children must have the ability to engage in social relationships appropriate for their age and they must be anxious in settings with peers, not just social situations with adults. The situation the person fears leads to anxiety which may look like

a panic attack. Children may express this fear by shrinking from situations in which they have to interact socially with people they do not know, freezing, crying, or having tantrums. In order to meet criteria for Social Phobia, adults must realize that their fear is unreasonable but children do not need to meet this criterion. Similarly to Specific Phobia, the fearful anticipation of encountering the stimulus, the distress during exposure, or the avoidance of the stimulus must significantly interfere with the person's academic/occupational functioning, daily routine, social functioning, or else create intense anxiety about the presence of the phobia. The phobia must occur for at least six months in children and adolescents. The avoidance or fear must not be cause by or related to a medical condition, substance, or another mental disorder in order to meet criteria for Social Phobia. When most social situations are feared, the Social Phobia is labeled Generalized (APA).

The diagnostic criteria for Obsessive-Compulsive Disorder (OCD) include recurrent obsessions or compulsions that take more than one hour each day, cause distress, or cause significant impairment in the person's occupational/academic functioning, daily routine, or social functioning (APA, 2000; see Appendix K). In adults, the person recognizes that the obsessions or compulsions are excessive but this is not part of the criteria for children. The obsessions or compulsions must not be restricted to content related to another Axis I disorder or caused by a medical condition or substance (APA).

PTSD involves experiencing helplessness, horror, or extreme fear related to the personal experience of a traumatic event (APA, 2000; see Appendix F). The event must

involve threatened or actual death, serious injury, or another threat to the physical integrity of themselves or someone else. The event can also involve learning about the unexpected or violent death, threat of death, or serious injury of a family member or person close to them. In children the response to the trauma may manifest as agitated or disorganized behaviors. The person re-experiences the trauma with at least one of the following symptoms: recollections of the trauma that are distressing, intrusive, and recurrent, nightmares about the traumatic event, reliving the trauma by acting or feeling as if it were happening, or distress or increased arousal when exposed to stimuli that are related to the trauma. In children, the trauma may be re-experienced through repetitive play, nightmares that do not have clear recognizable content, or trauma-specific reenactment. The person must also experience at least three symptoms of avoidance or numbing that were not occurring before the trauma. These symptoms include feelings that they will have a foreshortened future, detachment/estrangement from other people, restricted affect, avoidance of stimuli that remind the person of the trauma, avoidance of thoughts, feelings, or conversations related to the trauma, not being able to remember part of the traumatic event, or decreased interest or participation in important activities. In addition, the person must experience two or more symptoms of increased arousal that did not occur prior to the trauma. These include exaggerated startle responses, concentration problems, hyper vigilance, sleep disturbance, or irritability. These symptoms must occur for at least one month and must cause social, academic/occupational, or other impairment. If the symptoms occur for under three months the disorder is labeled acute, for longer than three months it is labeled chronic. When the symptoms begin six months

or more after the trauma, the disorder is labeled as Delayed Onset (APA). According to Alloy, Jacobson, and Acocella (1999), PTSD differs considerably from the other anxiety disorders. They suggested that PTSD differs from other anxiety disorders because the stress a person experiences when they have PTSD is a reaction to an external traumatic event. As a result, although the symptoms may be similar to other anxiety disorders and are often debilitating, they are relatively understandable given the experience of the external trauma (Alloy et al., 1999). As a result of the differences between PTSD and the other anxiety disorders, the participants who met diagnostic criteria for PTSD prior to treatment were excluded from the present study. Given that PTSD is so different than the other anxiety disorders, it was unreasonable to put girls who met criteria for PTSD in the same group as girls who met criteria for other anxiety disorders. Since many of the symptoms of PTSD are similar to other anxiety disorders, however, these girls could not be grouped with girls who did not have anxiety disorders. In addition, there were not enough girls in the sample who met criteria for PTSD to treat them as a separate group for the analyses. As a result, the four girls who met diagnostic criteria for PTSD were excluded from the present study.

Adjustment Disorder with Anxiety is diagnosed when a person develops symptoms as a result of a specific identifiable stressor and the symptoms occur within three months of when the stressor began and end within six months of when the stressor or consequences of the stressor were no longer present (APA, 2000; see Appendix D). The symptoms must either cause excessive distress that is more than expected as a result of the stressor or cause serious social, occupational, or academic impairment. If the

symptoms from the stressor meet criteria for another Axis I disorder, are related to a previous Axis I or II disorder, or meet criteria for Bereavement then the person does not meet criteria for Adjustment Disorder. In order to meet criteria for an Adjustment Disorder with Anxiety, the emotional or behavioral symptoms the person is experiencing are usually symptoms such as worry, jitteriness, and nervousness. Children may also experience fears about being separated from major attachment figures (APA).

If a person experiences significant anxiety or phobia but does not meet the specific criteria for any of the anxiety disorders, Adjustment Disorder with Anxiety, or Adjustment Disorder with Mixed Anxiety and Depressed Mood, then they may be diagnosed with ADNOS (APA, 2000). An example of this would be a person who is experiencing severe anxiety but does not have enough symptoms to meet the full criteria of any of the anxiety disorders (APA). Appendices D through K include more detailed information about the diagnostic criteria for the disorders discussed in this section.

Implications of Comorbid Anxiety

The presence of anxiety has been suggested to be a risk factor for developing later depression (Breslau et al., 1995; Cole et al., 1998; Flannery-Schroeder, 2006). Research by Breslau et al. suggested that the lifetime prevalence of MDD and the lifetime prevalence of anxiety disorders were approximately two times higher in females than males. In addition, they found that the higher prevalence of MDD in females was mainly in MDD that was comorbid with anxiety. Their results suggested that since anxiety is a risk factor for depression and more females have anxiety disorders, this may help to explain why more females experience depression. According to their results, more than

50% of the association between gender and depression can be explained by prior anxiety. These results suggest that anxiety plays a major role in the experience of depression for females. Depressed youth with comorbid anxiety also appear to experience more depressive symptomatology, more severe depression, earlier depression onset, and increased suicidal ideation compared to children without comorbid anxiety (Ghaziuddin et al., 2000; Kendall et al., 1992; Kovacs et al., 1989; Mitchell et al., 1988; Rohde et al., 2001; Stark et al., 1993; Young et al., 2006).

Summary of Anxiety and Depression Comorbidity in Youth

In people with depression the most common comorbid disorder is anxiety (Garber, 2006) and comorbid anxiety appears to be especially prevalent in females (NIMH, 2003). Between 30% to 75% of depressed preadolescents and 25% to 50% of depressed adolescents experience comorbid anxiety (Garber). Research by Kovacs et al. (1989) suggested that for children with depression, if comorbid anxiety develops it is likely to develop by age 12. This suggests that children and young adolescents are definitely at risk for comorbid anxiety and depression. Depressed youth with comorbid anxiety also appear to experience more negative outcomes than children without comorbid anxiety including more depressive symptomatology, more severe depression, earlier depression onset, and increased suicidal ideation (Ghaziuddin et al., 2000; Kendall et al., 1992; Kovacs et al.; Mitchell et al., 1988; Rohde et al., 2001; Stark et al., 1993; Young et al., 2006). These findings suggest that many youth experience comorbid depression and anxiety and as a result it is important to better understand how to provide effective interventions for these youth.

Treatment of Anxiety Disorders

Similar to the treatment of depressed children and adolescents, CBT has been found to be effective for treating youth anxiety disorders (Chorpita & Southam-Gerow, 2006). CBT programs for anxious youth such as the Coping Cat program (Kendall, Kane, Howard, & Siqueland, 1990) include many similar components to programs designed for depressed youth. For example, this program incorporates affective education, problem solving, coping, positive reinforcement, and recognizing/restructuring dysfunctional cognitions. Although the skills taught in CBT programs for depressed and anxious youth are similar, the activities in which these skills are used differ (Stark et al., 2006). In anxiety CBT programs, the skills learned are used in graded exposure activities, used to reduce stress, and utilized in the process of restructuring the idea that something bad is going to happen (Stark et al.). Research suggests that exposure activities may be a very critical component to the efficacy of CBT in anxious youth (Kendall et al., 1997). In depression CBT programs, the skills taught to youth are used to improve mood, restructure negative thoughts about oneself and others, and in stress reduction activities (Stark et al.).

Research suggests that parental behavior is related to childhood anxiety and therefore changing these behaviors may reduce anxiety in youth (Chorpita & Southam-Gerow, 2006). As a result, programs such as the Coping Koala program (Barrett et al., 1996), integrate parent training components that are similar to those investigated for depressed youth. This program, for example, includes teaching the parent communication, problem solving, and positive reinforcement. In addition to these

components some parts of this training are specific to working with anxious youth such as using reinforcement to encourage courageous behavior and reduce fear behaviors and teaching parents skills they can use to manage their own anxiety. Barrett et al. found that adding a family component increased treatment outcome for anxious youth. Another study found that even a parent only intervention was effective in reducing anxiety in children and adolescents (Thienemann et al., 2006). According to Chorpita and Southam-Gerow's review of CBT efficacy studies, other studies have found less empirical support for adding parent training to CBT interventions for anxious youth and empirical support for parent training is just beginning to emerge.

Comorbid Anxiety and the Treatment of Depression in Youth

Overview of Comorbid Anxiety and the Treatment of Depression in Youth

Although there have been mostly positive results in evaluations of cognitive behavioral interventions with depressed youth, approximately one third to one half of youth do not recover from their depressive episodes at the end of the intervention (Clark et al., 1992). It is still unclear, however, what factors predict treatment success or failure for adolescents with depression (Brent et al., 1998). It is important to know how different factors impact treatment outcome in order to inform the choice of treatments for different individuals, increase the understanding of how treatment works, and use this information in order to develop more effective interventions for people that are not responding well to existing interventions (Clark et al.). Stark et al. (1999) suggest that one factor that needs to be explored in terms of its relation to treatment outcome is the presence of comorbid conditions. Although comorbidity is very common in youth with depressive disorders

(Hammen & Rudolph, 2003), often manualized interventions are tested using clinical trials tailored to treat specific symptoms of a disorder and do not focus on comorbid symptoms (Clarkin & Kendall, 1992). Compton et al. (2004) explained that since researchers investigating treatment interventions in youth have often failed to assess whether comorbidity impacts treatment outcome, this has created major deficit in the depression and anxiety literature.

Naturalistic Studies of Comorbid Anxiety and Depression Recovery in Youth

In order to begin to understand the impact of comorbid anxiety on treatment outcome, some researchers have completed naturalistic studies of the relation between comorbid anxiety and depression recovery in youth (Goodyer, Herbert, Secher, & Pearson, 1997; Kovacs, Feinberg, Crouse-Novak, Paulauskas, & Finkelstein, 1984; Sanford et al., 1995; Weersing & Weisz, 2002).

Goodyer et al.'s (1997) study involved investigating factors that predicted depression persistence in a clinical sample of 8-16 year old depressed children and adolescents. They identified 78 children who met criteria for MDD and after 36 weeks the children were reassessed for depression. In this study, the participants were in outpatient or inpatient care so they received a variety of different interventions during those 36 weeks including CBT, supportive measures, psychotherapy, family therapy, parent counseling, group therapy, and antidepressants. The researchers, however, did not control for treatment type but they indicated that treatment did not differ based on comorbidity. After the 36 weeks, 50% of the participants had recovered from depression.

The researchers found that the presence of comorbid OCD during the first assessment predicted not recovering from depression after 36 weeks.

Sanford et al. (1995) completed a similar study with 13-19 year old adolescents who were referred for outpatient and inpatient treatment to determine factors predicting MDD remission. The presence of comorbid anxiety disorders was found to be one of the factors associated with continued depression after one year. Anxiety was only a significant factor when the effects of age and comorbid substance use disorders were taken into account. Sanford et al. suggested that these results may indicate that depression persistence in younger adolescents without substance use disorders may be most impacted by comorbid anxiety. Goodyer et al. (1997) and Sanford et al.'s studies suggested that the presence of comorbid anxiety disorders predicts the persistence of depression in clinical samples, however, two other studies suggested that anxiety was not a significant predictor of depression recovery (Kovacs et al., 1984; Weersing & Weisz, 2002).

Weersing and Weisz (2002) evaluated the efficacy of psychotherapy for depressed male and female youth who received outpatient services at community mental health centers and investigated factors predicting treatment response. Their participants ranged from 7 to 17 years of age. These participants received from 1 to over 90 treatment sessions and 35% received less than eight sessions. Therapy included psychodynamic, behavioral, and cognitive techniques. These researchers did not find that comorbid anxiety predicted the trajectory of depressive symptoms during treatment for their participants.

Kovacs et al. (1984) investigated depression recovery in a sample of children from 8 to 13 years of age who were receiving outpatient services through psychiatric clinics and medical clinics. They found that the presence of a comorbid anxiety disorder in children with MDD or DD did not impact recovery from their depression. Similar to the studies described above, treatment was not controlled in the study by Kovacs et al. In this study, only 63% of the children received treatment, 23% had assessment services, and 14% did not experience either. Six of their cases received pharmacological treatments for either their depression or anxiety. The participants received treatment at different times during their episode and the length, format, and frequency of the treatment varied widely.

The different results from these four studies (Goodyer et al., 1997; Kovacs et al., 1984; Sanford et al., 1995; Weersing & Weisz, 2002) may be related to the fact that the treatment was not controlled for and the treatment received by participants varied widely both within and between these studies. Kovacs et al. suggested that since treatment was not controlled for in their study, meaningful conclusions could not be made about the impact of treatment on recovery from depression. They suggested that research evaluating specific psychosocial therapies was needed to explain how treatment impacts depression recovery.

Comorbid Anxiety and the Treatment Outcome of Depressed Youth

Some studies have investigated comorbid anxiety and its impact on the outcomes for specific treatments of depression, however, these studies have focused mainly on older adolescents. Young et al. (2006) investigated whether comorbid anxiety impacted

treatment outcome for male and female depressed adolescents aged 12 to 18 receiving Interpersonal Psychotherapy for Depressed Adolescents (IPT-A) or treatment as usual as part of the control group. Adolescents were considered to have comorbid anxiety if they answered questions on a self report screening questionnaire in a way which suggested they had a current probable diagnosis of social phobia, panic disorder, or GAD. Changes in depression during treatment were measured by a rating scale that assessed depressive symptoms. Those adolescents who had any of the probable anxiety disorders also had higher depression severity scores before treatment but had no differences in global functioning scores. Controlling for baseline severity, the adolescents with probable anxiety disorders still had higher severity scores at post treatment but there was no difference in functioning scores.

Jayson et al. (1998) investigated what factors may inhibit recovery in depressed youth treated with individual CBT. Their sample included 50 depressed male and female youth from 10 to 17 years of age who participated in two larger studies of treatment outcome in depressed youth (Wood et al., 1996; Kroll, Harrington, Jayson, Fraser, & Gowers, 1996). The participants all received 8 sessions of CBT. These researchers found that the presence of a comorbid anxiety disorder was not related to depression remission. These authors, however, explained that their small sample size required them to use a conservative data analysis approach and they suggested that a larger sample may have detected more predictors of remission.

Four studies have investigated whether anxiety impacts treatment outcome specifically in group CBT treatments for adolescents (Brent et al., 1998, Clarke et al.,

1992, Curry et al., 2006; Rohde et al., 2001). Brent et al.'s study tried to identify predictors of response to treatment for 107 male and female 13 to 18 year old adolescents diagnosed with MDD. These adolescents received 12 to 16 sessions of either CBT, systemic behavioral family therapy (SBFT), or nondirective supportive therapy (NST) as part of a study evaluating treatment outcome in depressed adolescents (Brent et al., 1997). The researchers found that the presence of a comorbid anxiety disorder at intake predicted depression at the end of treatment. Comorbid anxiety, however, was not a significant predictor of clinical remission which was measured by absence of MDD at post-treatment and consecutively low scores on a self report measure of depressive symptoms (Beck Depression Inventory (BDI)) or of post-treatment levels of functional impairment. These authors also found that the presence of comorbid anxiety was related to better outcome from CBT than the two other treatments.

A study by Clark et al. (1992) evaluated characteristics that were related to positive treatment outcome in depressed adolescents. The 37 depressed adolescents who were participants in the study were part of a larger study evaluating treatment outcome in male and female 14 to 18 year old depressed adolescents (Lewinsohn et al., 1990). These participants received either 14 sessions of CBT group therapy alone or these 14 sessions and an additional seven sessions of parent training. Results of the study suggested that lower state anxiety before treatment was related to recovery after treatment. State anxiety was not a predictor of change in BDI scores after treatment.

Curry et al.'s (2006) study was aimed at identifying predictors and moderators of treatment outcome in the Treatment for Adolescents with Depression (TADS) study. In

the TADS study, 439 male and female depressed adolescents from 12-17 years of age were in one of four conditions, CBT, fluoxetine, a combination of both, or a pill placebo group for 12 weeks (Treatment for Adolescents with Depression Study (TADS) Team, 2005). They found that the presence of a comorbid anxiety disorder predicted less improvement at post-treatment across conditions but the relation between comorbid anxiety and treatment outcome did not differ between treatment groups.

Rohde et al. (2001) investigated whether comorbidity was related to treatment outcome in 151 male and female depressed adolescents from 14 to 18 years of age who participated in one of two studies evaluating treatment outcome in depressed adolescents (Clarke et al., 1999; Lewinsohn et al., 1990). These adolescents received either 14 to 16 sessions of CBT group treatment or the CBT sessions and an additional 7 to 9 sessions of parent training. They found that the presence of lifetime anxiety comorbidity was related to significantly higher pre-treatment scores on a self report measure of depressive symptoms (Beck Depression Inventory (BDI)). As opposed to the findings from the previous studies (Brent et al., 1998, Clarke et al., 1992; Curry et al., 2006), comorbid anxiety was related to improved treatment outcome indicated by more post-treatment change on the BDI. The researchers, however, did not control for pre-treatment BDI scores and they suggested that the finding that the comorbid anxiety group had more change was probably related to the fact that they started out with higher scores at pre-treatment. Lifetime anxiety comorbidity was not related to diagnostic recovery. Differences between the treatment conditions were not found for the relation between lifetime anxiety comorbidity and treatment outcome. The findings from this study were

very different from the results from the studies by Brent et al., Clark et al., and Curry et al. and there were several factors in Rohde et al.'s study that may help to explain these differences. Rohde et al. used measures of lifetime comorbidity instead of current comorbidity to test whether comorbidity was related to treatment outcome and excluded people experiencing common current anxiety disorders such as GAD and Panic Disorder. As a result, the findings from this study do not provide information about whether the concurrent comorbidity of anxiety and depression during treatment for depression influenced treatment outcome.

Comorbidity and Parent Training

Research has suggested that the co-occurrence of anxiety and depression is associated with maternal psychopathology and poor maternal health (Kovacs et al., 1989), more family enmeshment, less democracy in terms of family decision making, less family involvement in recreational activities, less family emphasis on morality and religion, and child reports of less family support and more family conflict (Stark et al., 1990). As a result of the relationship between comorbid depression and anxiety and negative family factors, Stark et al. (1999) suggest that treatment of comorbid anxiety and depression may need to include the parental system in addition to working with the children. In addition, some research suggests a benefit to receiving parent intervention for children with anxiety (Barrett et al., 1996; Thienemann et al., 2006). This information suggests that receiving a parent component in addition to CBT therapy may be especially beneficial for children with comorbid anxiety.

Only one of the previous CBT group therapy studies investigated whether parent training was a possible moderator between comorbid anxiety and treatment outcome (Rohde et al., 2001). These researchers did not find significant results suggesting a relation between comorbid anxiety, treatment condition, and treatment outcome. As mentioned previously, however, the specific methodology used in Rohde et al.'s study did not allow for conclusions to be made about the impact of experiencing concurrent anxiety and depression during treatment.

Summary of Comorbid Anxiety and the Treatment of Depression in Youth

Naturalistic studies of the relation between comorbid anxiety and depression recovery have shown mixed results. Two studies suggested that the presence of comorbid anxiety was related to continued depression (Goodyer et al.'s, 1997; Sanford et al., 1995) and two other studies suggested that anxiety was not a significant predictor of depression recovery (Kovacs et al., 1984; Weersing & Weisz, 2002). The different results from these four studies (Goodyer et al.; Kovacs, et al.; Sanford, et al.; Weersing & Weisz) may be related to the fact that the treatment was not controlled for and the treatment received by participants varied widely both within and between these studies.

Studies investigating the impact of comorbid anxiety on treatment outcome from specific interventions have focused almost entirely on older adolescents. Only one study (Jayson et al., 1998) included children and adolescents in their study and their results suggested that comorbid anxiety was not related to treatment recovery using a brief individual CBT intervention. These authors, however, explained that their small sample size required them to use a conservative data analysis approach and they suggested that a

larger sample may have detected more predictors of remission. Young, et al.'s (2006) study suggested that for adolescents who received an interpersonal therapy intervention or a treatment as usual control condition, the presence of probable comorbid anxiety disorders at pre-treatment was related to higher severity scores at post-treatment even after controlling for pre-treatment scores.

Four studies have investigated whether anxiety impacts treatment outcome specifically in group CBT treatments for adolescents and all of these studies have focused on older adolescents (Brent et al., 1998, Clarke et al., 1992, Curry et al., 2006; Rohde et al., 2001). Brent et al.'s study found that the presence of a comorbid anxiety disorder at intake predicted depression at the end of treatment for adolescents who received either CBT, systemic behavioral family therapy (SBFT), or nondirective supportive therapy (NST). Results from a study by Clark et al. suggested that lower state anxiety before treatment outcome was related to recovery after treatment for adolescents who received group CBT alone or group CBT and a parent intervention. Curry et al. found that the presence of a comorbid anxiety disorder predicted less improvement at post-treatment across conditions for adolescents receiving either CBT, fluoxetine, a combination of both, or a pill placebo. Only one group CBT study did not have results suggesting that comorbid anxiety was related to poorer treatment outcome (Rohde, et al.). These researchers found that the presence of comorbid anxiety was related to more post-treatment change on the Beck Depression Inventory (BDI). This study, however, had limitations which may have influenced the results.

There is also very limited research evaluating whether parent intervention moderates the relation between comorbid anxiety and treatment outcome in youth. Although research has suggested that parent intervention may be especially beneficial for youth with comorbid anxiety and depression (Kovacs et al., 1989; Stark et al., 1999), only one of the previous studies investigated whether the relation between comorbid anxiety and treatment outcome was moderated by receiving parent intervention (Rohde et al., 2001). These researchers did not find significant results. As mentioned previously, however, the results of Rohde et al's study were limited based on their methodology.

In conclusion, there is a need for research that provides more information about the association between comorbid anxiety and treatment outcome especially for depressed children and early adolescents. Research is also needed to determine whether parent intervention moderates the relation between comorbid anxiety and treatment outcome for depressed youth. Therefore, this study focused on investigating the relation between comorbid anxiety and treatment outcome in a sample of depressed female early adolescents who received either group CBT or group CBT plus a parent intervention. The inclusion of both treatment types allowed for an investigation of whether parent intervention moderated the relation between comorbid anxiety and treatment outcome.

Statement of the Problem

Depressive disorders are common in youth (Birmaher, Ryan, Williamson, Brent, Kaufman, Dahl et al., 1996) and are associated with many negative outcomes (Fergusson & Woodward, 2002; OAS, 2006; Weissman et al., 1999). Depressive disorders in youth also increase the risk of experiencing future psychopathology, including depression

recurrence (Lewinsohn et al., 1999; Rao et al., 1995). Females are especially at risk for depression and the lifetime risk of major depression for females is twice that of males (APA, 2000). In addition, early adolescence appears to be a significant period in the development of depression, especially in females. The overall rate of depression drastically increases between early and late adolescence (OAS; Saluja et al., 2004) and the gender difference in depression also first appears during this age period (Hankin et al., 1998). This research suggests the need to increase our understanding of depression in early adolescent girls.

Considering that depressive disorders occur so often in youth, the development of effective interventions is very important in order to provide these youth relief from their current depressive symptoms, improve their quality of life, and positively impact their future development (Brooks & Kutcher, 2001). Research suggests that psychotherapy is an effective initial treatment for depressed children and adolescents (Birmaher, Ryan, Williamson, Brent, & Kaufman, 1996) and reviews of psychotherapy treatment studies for youth with depression suggest that CBT is both the most frequently investigated and the most empirically supported treatment for this population (Curry, 2001). Although there have been mostly positive results from CBT interventions with depressed youth, approximately one third to one half of youth do not recover from their depressive episode at the end of the intervention (Clark et al., 1992). It is still unclear what factors predict treatment success or failure for adolescents with depression (Brent et al., 1998).

One factor that researchers are starting to investigate as a possible moderator of treatment outcome is comorbidity (Brent et al., 1998, Clarke et al., 1992, Curry et al.,

2006; Jayson et al., 1998; Rohde et al., 2001: Young et al., 2006). The study of comorbidity has been identified as an important area of research especially in children and adolescents with depression given that comorbidity in depressed youth is the rule not the exception (Hammen & Rudolph, 2003). In people with depression the most common comorbid disorder is anxiety (Garber, 2006) and comorbid anxiety appears to be especially prevalent in females (NIMH, 2003). Research also suggests that for children with depression, if comorbid anxiety develops it is likely to develop by age 12 (Kovacs et al., 1989). Depressed youth with comorbid anxiety also appear to experience more negative outcomes than children without comorbid anxiety including more depressive symptomatology, more severe depression, earlier depression onset, and increased suicidal ideation (Ghaziuddin, et al., 2000; Kendall et al., 1992; Kovacs et al.; Mitchell et al., 1988; Rohde et al.).

One limitation in the current literature is that studies of the relation between comorbid anxiety and treatment outcome have almost exclusively focused on older depressed adolescents. There is only one study that included children in addition to adolescents (Jayson et al., 1998). Results indicated that comorbid anxiety was not related to treatment outcome for depressed youth. This study, however, used a very brief individual CBT intervention and their small sample size may have restricted their findings. There have been no studies of group CBT with depressed children or early adolescents evaluating comorbid anxiety as a possible moderator of treatment outcome. Four studies have investigated whether comorbid anxiety impacts treatment outcome specifically in group CBT treatments for depressed older adolescents (Brent et al., 1998,

Clarke et al., 1992, Curry et al., 2006; Rohde et al., 2001). Three of the four studies found that individuals with comorbid anxiety and depression were less likely to improve from treatment than depressed individuals without comorbid anxiety (Brent et al.; Clarke et al; Curry et al.). The other study, however, found that the presence of comorbid anxiety was related to more post-treatment change on the Beck Depression Inventory (Rohde et al.). The finding of this study are limited by the fact that they used measures of lifetime comorbidity instead of current comorbidity and excluded people experiencing common current anxiety disorders.

There is also very limited research about whether the relation between comorbid anxiety and treatment outcome in depressed children and adolescents is moderated by receiving parent intervention. Only one study has explored this (Rohde et al., 2001), but these researchers did not find that parent intervention was a moderator. As previously discussed, however, this study had limitations which may have influenced the results. Research has suggested that the co-occurrence of anxiety and depression is associated with many negative family factors (Stark et al., 1990). As a result of these findings, Stark et al. (1999) suggest that the treatment of comorbid anxiety and depression may need to include the parental system in addition to working with the children. Some research has also suggested a benefit to receiving parent intervention for children with anxiety (Barrett et al., 1996; Thienemann et al., 2006). This information suggests that receiving a parent component in addition to CBT therapy may be especially beneficial for children with comorbid depression and anxiety.

In conclusion, there is a need for research that provides more information about the relation between comorbid anxiety and treatment outcome especially for depressed female children and early adolescents. Research is also needed to determine whether parent intervention moderates the relation between comorbid anxiety and treatment outcome in depressed youth. Therefore, this study focused on investigating the relation between comorbid anxiety and treatment outcome in a sample of depressed young female adolescents who received either group CBT or group CBT plus a parent intervention. The inclusion of both treatment types allowed for an investigation of the impact of parent intervention on children with comorbid depression and anxiety.

Research Hypotheses

Hypothesis 1

Depressed girls with a comorbid anxiety disorder as determined by meeting diagnostic criteria at pre-treatment for one or more anxiety disorders on the Schedule for Affective Disorders and Schizophrenia for School Age Children (K-SADS-IVR; Ambrosini & Dixon, 2000) will have a significantly higher continuous total depression score on the K-SADS-IVR prior to treatment than depressed girls without a comorbid anxiety disorder.

Rationale. Previous research suggests that depressed youth with comorbid anxiety experience more severe depressive symptoms than depressed youth without anxiety (Mitchell et al., 1988; Stark et al., 1993; Young et al., 2006). This hypothesis will replicate previous research which found that the severity of depression was higher in depressed children with comorbid anxiety compared to those without comorbid anxiety.

Hypothesis 2

Depressed girls with a comorbid anxiety disorder as determined by meeting diagnostic criteria at pre-treatment for one or more anxiety disorders on the K-SADS-IVR will have a significantly lower global functioning score on the Children's Global Assessment Scale (CGAS; Shaffer et al., 1983) prior to treatment than depressed girls without a comorbid anxiety disorder.

Rationale. This is an exploratory hypothesis given the limited research regarding the study of global functioning in youth with comorbid anxiety and depression. Research has suggested that depressed youth with comorbid anxiety appear to experience more depressive symptomatology, more severe depression, earlier depression onset, and increased suicidal ideation compared to children without comorbid anxiety (Ghaziuddin et al., 2000; Kendall et al., 1992; Kovacs et al., 1989; Mitchell et al., 1988; Rohde et al., 2001; Stark et al., 1993; Young et al, 2006). Considering that comorbid anxiety has been found to be related to these negative outcomes, it would be expected that the overall functioning of these children is poorer than children without comorbid anxiety.

Hypothesis 3

The presence of a comorbid anxiety disorder at pre-treatment as determined by meeting diagnostic criteria for one or more anxiety disorders on the K-SADS-IVR will be related to less reduction in depressive symptoms after treatment as measured by pre-treatment and post-treatment continuous total depression scores on the K-SADS-IVR.

Rationale. Four studies have investigated whether anxiety impacts treatment outcome in group CBT treatments for older adolescents (Brent et al., 1998, Clarke et al.,

1992, Curry et al., 2006; Rohde et al., 2001). Three of the four studies found that individuals with comorbid anxiety and depression were less likely to improve from treatment than depressed individuals without comorbid anxiety (Brent et al.; Clark et al; Curry et al.). Only one study found that the presence of comorbid anxiety was related to more post-treatment change on the Beck Depression Inventory (Rohde, et al.). This study, however, was limited by the fact that they used measures of lifetime comorbidity instead of current comorbidity and excluded people experiencing common current anxiety disorders. Although there have been no studies of the relation between comorbid anxiety and treatment outcome in CBT group therapy for depressed children and younger adolescents, the results of the research with older adolescents suggests that comorbid anxiety will most likely be associated with poor treatment response in this sample.

Hypothesis 4

The presence of a comorbid anxiety disorder at pre-treatment as determined by meeting diagnostic criteria for one or more anxiety disorders on the K-SADS-IVR will be related to less improvement in global functioning after treatment as measured by pre-treatment and post-treatment scores on the CGAS.

Rationale. This hypothesis is exploratory because there has been limited research about whether comorbid anxiety influences changes in overall functioning after treatment. Given that studies have found that comorbid anxiety is associated with reduced treatment outcome in terms of reductions in depressive symptoms and diagnostic recovery (Brent et al., 1998, Clark et al., 1992; Curry et al., 2006), it would be expected

that comorbid anxiety would also be related to less change in global functioning during treatment.

Hypothesis 5

The relation between the presence of a comorbid anxiety disorder at pre-treatment as determined by meeting diagnostic criteria for one or more anxiety disorders on the K-SADS-IVR and the change in depressive symptoms after treatment as measured by pre-treatment and post-treatment continuous total depression score on the K-SADS-IVR will be moderated by treatment condition. Participants will either be in a CBT only treatment condition or a CBT plus parent training treatment condition.

Rationale. Although there is very limited research about whether the relation between comorbid anxiety and treatment outcome is moderated by receiving parent intervention, research suggests that that the co-occurrence of anxiety and MDD is associated with many negative family factors (Stark et al., 1990). These factors include maternal psychopathology and poor maternal health (Kovacs et al., 1989), more family enmeshment, less democracy in terms of family decision making, less family involvement in recreational activities, less family emphasis on morality and religion, and child reports of less family support and more family conflict (Stark, et al., 1990). As a result of these findings, it is suggested that the treatment of comorbid anxiety and depression may need to target the parental system in addition to working with the children (Stark et al., 1999). Some research has also suggested a benefit to receiving parent intervention for children with anxiety (Barrett, et al., 1996; Thienemann, et al., 2006). These research findings suggest that receiving a parent component in addition to

CBT therapy may be especially beneficial for children with comorbid anxiety which would indicate that parent intervention would moderate the relation between comorbid anxiety and treatment outcome.

Hypothesis 6

The relation between the presence of a comorbid anxiety disorder at pre-treatment as determined by meeting diagnostic criteria for one or more anxiety disorders on the K-SADS-IVR and the change in global functioning scores after treatment as measured by pre-treatment and post-treatment global functioning scores on the CGAS will be moderated by treatment condition. Participants will either be in a CBT only treatment condition or a CBT plus parent training treatment condition.

Rationale. This hypothesis is exploratory give that there have been no studies investigating whether parent intervention moderates the relation between comorbid anxiety and global functioning after treatment. In spite of the lack of research in this area, research on the factors associated with comorbid anxiety and depression suggest that the presence of both of these disorders is related to many negative family factors including more family enmeshment, less democracy in terms of family decision making, less family involvement in recreational activities, less family emphasis on morality and religion, and child reports of less family support and more family conflict (Stark et al., 1990). These factors suggest that parent intervention may be especially beneficial for children with both depression and anxiety. In addition, a study of a parent-only group intervention for anxious children indicated that parent intervention was related to child improvements in global functioning (Thienemann et al., 2006). These research findings suggest that

receiving a parent component in addition to CBT therapy may be especially beneficial in improving functioning in depressed children with comorbid anxiety. This suggests that the parent intervention will moderate the relation between comorbid anxiety and changes in global functioning during treatment.

CHAPTER 3

Method

Participants

Participants included 84 girls who were 9 to 13 years old and their primary caregivers. The girls were all enrolled in grades 4 to 7. The mean age of these girls was 10.54 (SD = 1.22) and the average grade level was 5.26 (SD = 1.10). All of the girls met criteria for a current depressive disorder prior to treatment including MDD (*n*=60), DD (*n*=17), DDNOS (*n*=1), Adjustment Disorder with Depressed Mood (*n*=1), or MDD in Partial Remission (*n*=11). The ethnicity of the girls was 47.6% European American, 31% Latina, 11.9% African American, 2.4% Asian, 1.2% American Indian, and 6% Multi-racial. The ethnicity of the parents was 41.7% European American, 19% Latina, 7.1% African American, 1.2% American Indian, 4.8% Multi-racial, and 26.2% Unknown. The education level of the parents was 8.3% with an advanced degree, 16.7% with a 4-year degree, 28.6% with completion of some college or junior college, 15.5% with a high school degree or GED, 2.4% with completion of some high school, 1.2% with completion of less than high school, and 27.4% were unknown. The number of participants who met criteria for each depressive and comorbid diagnosis appears in Table 1. The demographic information for the sample is presented in Table 2.

Table 1

Summary of Participant Diagnoses

Diagnosis	n	Percent
Major Depressive Disorder	60	71.4%
Dysthymia	17	20.2%
Depressive Disorder NOS	1	1.2%
Adjustment Disorder with Depressed Mood	1	1.2%
Major Depressive Disorder in Partial Remission	11	13.1%
Generalized Anxiety Disorder	29	34.5%
Specific Phobia	8	9.5%
Separation Anxiety	7	8.3%
Social Phobia	2	2.4%
Panic Disorder	0	0.0%
Anxiety Disorder NOS	1	1.2%
Adjustment Disorder with Anxiety	1	1.2%
Eating Disorder	1	1.2%
Oppositional Defiant Disorder	3	3.6%
Attention Deficit Disorders	9	10.7%

Note. Total sample included 84 participants.

Table 2

Summary of Participant Demographic Variables

Variable	n	Percent
Age		
9	21	25.0%
10	23	27.4%
11	18	21.4%
12	18	21.4%
13	4	4.8%
Grade		
4	26	31.0%
5	24	28.6%
6	20	23.8%
7	14	16.7%
Child Ethnicity		
European American	40	47.6%
Latina	26	31.0%
African American	10	11.9%
Asian	2	2.4%
American Indian	1	1.2%
Multi-racial	5	6.0%
Parent Ethnicity		
European American	35	41.7%
Latina	16	19.0%
African American	6	7.1%
Asian	0	0.0%
American Indian	1	1.2%
Multi-racial	4	4.8%
Unknown	22	26.2%
Parent Educational Status		
Less than high school	1	1.2%
Some high school	2	2.4%
Finished high school/GED	13	15.5%
Some college/junior college	24	28.6%
Finished 4 year college	14	16.7%
Advanced Degree	7	8.3%
Unknown	23	27.4%

Note. Total sample included 84 participants.

Calculations of the prevalence of comorbidity in the sample for this study indicated that 57% (n=48) of the girls met criteria for at least one comorbid disorder and 46% (n=39) met criteria for a comorbid anxiety disorder. Of the participants who received more than one diagnosis, 81% percent met criteria for a comorbid anxiety disorder. A total of 39 participants were diagnosed with both depressive and anxiety disorders and 45 met criteria for at least one depressive disorder but did not meet criteria for an anxiety disorder. Of the 43 girls who received both group treatment and the parent training component, 17 met criteria for a comorbid anxiety disorder and 26 did not. Twenty two of the 41 girls who received group therapy but no parent training met criteria for an anxiety disorder and 19 did not meet criteria.

Participants were excluded from the study if they met any of the following conditions: an IQ that was below 85 or a learning disability that would prevent them from being able to complete research measures or participate in the group, their depressive disorder was not considered their primary diagnosis, they presented with current psychotic symptoms, they were actively suicidal or homicidal, they were receiving treatment for their depression from an outside therapist or through pharmacological treatment, or they had a severe medical disability that prevented them from being able to regularly attend group and complete group activities. Participants who were actively suicidal or homicidal or presented with severe psychotic features were referred for appropriate treatment.

There were also 25 participants who began treatment whose data were excluded from this study. Fourteen of these participants dropped out of the study prior to treatment

completion, three of the participants had post-treatment data that was either incomplete or unavailable, three of the participants did not receive standard treatment as a result of restrictions from their school, and one participant did not speak English well enough to fully participate in the treatment. As described earlier in the review of anxiety disorders, the four participants who met criteria for PTSD prior to treatment were also excluded from this study.

Instrumentation

Measures of Depression

Children's Depression Inventory (CDI; Kovacs, 1981). The Children's Depression Inventory (CDI; Kovacs) is a 27 item self-report measure that assesses depressive symptoms in children from 7 to 17 years of age (MHS Inc., 1992). Depressive symptoms measured by the CDI include interpersonal behaviors, self evaluation, disturbed mood, hedonic capacity, and vegetative functions. The five factors measured by the CDI are anhedonia, interpersonal problems, ineffectiveness, negative mood, and negative self esteem. The CDI is designed to be used as a screening measure to identify youth with depressive disorders in many different clinical and non-clinical settings. The measure can also used to evaluate treatment progress or monitor symptoms. Administration time for the CDI is approximately 15 minutes (MHS Inc.).

The CDI is the most commonly used self report measure for screening depression in youth (Craighead, Craighead, Smucker, & Ilardi, 1998; Tibremont, Braet, & Dreesen, 2004). Each of the 27 items on the test is made up of three statements that assess three levels of severity and each statement is assigned a numerical value from zero to two, with

two being the most severe (Craighead et al.). The participants are asked to choose the sentence that best describes how they have been feeling and thinking over the past two weeks. The total CDI score is calculated by adding up the numerical values for each sentence which creates a possible score from 0 to 54. A score of 19 on the test is at the 90^{th} percentile and is often the cut-off used to determine that someone is experiencing a clinically significant level of depression (Craighead et al.). Finch, Saylor, and Edwards (1985) collected normative data for the CDI by administering the measure to a large group of children attending Florida public schools. Their sample included 705 boys and 758 girls in grades 2 through 8 (ages 7 to 16). They found that the mean score for the girls was 9.01 (SD = 6.97) and for the boys was 10.33 (SD = 7.59).

Research has suggested that a score of 16 maximizes both the sensitivity and specificity of the CDI (Tibremont, et al., 2004). In addition, Finch et al.'s (1985) study found a mean of 9.01 and a standard deviation of 6.97 for the girls in their sample which suggests that for girls, a score of 16 is the cut-off point for scores that are one standard deviation or more above the mean. As a result, a score of 16 was used as a cut-off score for screening youth in this study.

Studies of the discriminant validity of the CDI have produced mixed results (Saylor, Finch, Spirito, & Bennett, 1984; Timbremont et al., 2004). Saylor et al. did not find significant differences between the CDI scores of depressed and non-depressed children and adolescents. Timbremont et al., however, found that the CDI discriminated between depressive disorders and other psychiatric diagnoses well and in their study over

84% of participants were accurately identified as depressed or not depressed using their CDI scores.

The CDI has been shown to have good reliability (Kovacs, 1992). The test has been found to have an internal consistency from .71 to .94 (Kovacs, 1981; Saylor et al., 1984; Smucker, Craighead, Craighead, & Green, 1986). Saylor et al. found that the CDI had a test-retest reliability of .87 with children who had emotional or behavior problems and .38 for children from regular classrooms with a 1 week time interval between administrations. These authors also found that the test-retest reliability for the children with emotional or behavior problems was .59 with a 6 week interval between administrations. Smucker et al. found a test-retest reliability from .74 to .77 with a 3 week interval and from .41 to .69 for a 1 year interval in sample of children in regular classrooms. Finch, Saylor, Edwards, & McIntosh (1987) measured the test-retest reliability in a sample of children from regular classrooms and found a reliability coefficient of .82 for a 2 week interval, .66 for a 4 week interval, and .67 for a 6 week interval. Test-retest reliabilities for the CDI appear to vary widely depending upon the interval length between administrations and Kovacs (1992) suggested that this may occur because the CDI measures a mood state instead of a trait and mood symptoms may not be stable across a large range of time. As a result of this variability over time, Kovacs (1992) suggested that an interval of 2 weeks is most appropriate to determine test-retest reliability. In this study, the CDI was administered during the screening process. For the sample of girls screened in the present study, the Cronbach's alpha for the CDI was .90.

Beck Depression Inventory for Youth (BDI-Y; Beck et al., 2001). The Beck Depression Inventory for Youth (BDI-Y; Beck et al., 2001) is one of five self-report scales that make up the Beck Youth Inventories of Emotional and Social Impairment (Beck et al., 2001). According to Steer, Kumar, Beck, and Beck (2001), these scales are designed for youth aged 7 to 14 and can be administered separately or together to screen for depression, anger, anxiety, self concept, and disruptive behaviors. The BDI-Y takes about 5 to 10 minutes to administer and measures the presence of depressive symptoms with 20 items that ask children about their negative thoughts, their physiological depressive symptoms, and their feelings of sadness (Beck, Beck, Jolly, & Steer, 2005). For each item, the child is asked to mark how often a specific symptom has occurred for them in the past 2 weeks on a 4-point scale ranging from never to always (Steer et al.). Each of the frequency points has a numerical value from zero to three and the total score is calculated by adding up the values from the 20 statements to produce a score from 0 to 60 (Steer et al.). Seven to ten year old children with scores of 20-24 are considered to have mildly elevated scores, with scores of 25-34 are considered to have moderately elevated scores, and with scores at or above 35 are considered to have extremely elevated scores (Beck et al., 2005). Eleven to fourteen year old adolescents with scores of 17-20 are considered to have mildly elevated scores, with scores of 21-28 are considered to have moderately elevated scores, and with scores at or above 29 are considered to have extremely elevated scores (Beck et al., 2005).

Measures of the reliability of the BDI-Y suggest that the measure has high reliability (Beck et al., 2005). Research has suggested that the internal consistency is high

with coefficient alphas ranging between .90 to .95 for both male and female children and adolescents (Beck et al..; Stapleton, Sander, & Stark, 2007; Steer, et al., 2001). The test-retest reliability has been found to range from .79 to .92 with an interval of 7 to 8 days between administrations (Beck et al.). The BDI-Y also shows good discriminant validity since Beck et al. found that children with a mood disorder scored significantly higher than other children on the BDI-Y. Stapleton et al. tested the discriminant validity of the BDI-Y and reported that the scores on the BDI-Y for girls with depression or comorbid depression and anxiety were significantly higher than the scores for girls without a diagnosis with an effect size of .80. In addition, they found that using moderately or extremely elevated BDI-Y scores identified 81% of the participants with depression. The total score on the BDI-Y has been found to be significantly correlated with the total score on the CDI with correlations ranging from .72 to .83 (Beck et al.; Stapleton et al.; Steer et al.). Steer et al. reported that the correlation between the BDI-Y and the CDI was much stronger than the relation between the CDI and the other Beck Inventories. The BDI-Y was used to screen participants for depression in this study and the Cronbach's alpha for the sample of girls screened in this study was .93.

Diagnostic and Statistical Manual Brief Symptom Interview for Depression (DSM Interview; Stark & Sander, 2002). The Diagnostic and Statistical Manual Brief Symptom Interview for Depression (DSM Interview; Stark & Sander) is a new semi-structured interview that was created in order to screen and monitor symptoms of depression for participants in a large depression study. The interview was created based upon the DSM-IV (APA, 1994) criteria for depressive disorders and is designed to briefly assess current

symptoms of depression. Depressive symptoms are considered to be "present" when a child reports the symptom has been a problem for the majority of days in the past 2 weeks and the symptom has created impairment or distress. The rating of "present" for a symptom is equivalent to receiving a score of 3 or more for a symptom on the K-SADS.

The DSM interview was used as part of the screening process in this study. The DSM Interview had a Cronbach's alpha of .86 for the sample of girls screened with this interview in the study. A total score was computed for the DSM. The total score for each participant was equal to the number of symptoms they endorsed during the interview. The DSM interview total score was found to be significantly correlated with the CDI (r=.51, p<.001*)* and the BDI-Y (*r*=.49, p<.001*)* for the sample of participants screened in this study.

Measure of Depression and Anxiety

The Schedule for Affective Disorders and Schizophrenia for School Age Children (K-SADS-IVR; Ambrosini & Dixon, 2000). The Schedule for Affective Disorders and Schizophrenia for School-Age Children IVR (K-SADS- IVR; Ambrosini & Dixon) was administered during the screening process of this study to determine whether the participants met diagnostic criteria for depressive or anxiety disorders. The interview was also administered to the participants after they completed treatment. The K-SADS- IVR is a semi-structured diagnostic interview that is based upon criteria from the DSM-IV (APA, 1994) and involves interviews with both children and their caregivers (Ambrosini, 2000). The interview is designed to provide information about the presence, absence, and severity of symptoms of psychiatric diagnoses including depressive disorders, bipolar

disorders, eating disorders, anxiety disorders, attention deficit disorders, psychotic disorders, conduct disorder, and oppositional defiant disorder. The interview also screens for substance abuse disorders. During this interview, participants are asked screening questions for each diagnostic category and if they endorse the screening questions then they are administered all of the questions for that section of the interview. If the screening questions are not endorsed then that section of the interview is not administered and the interview continues with the next section (Ambrosini).

The K-SADS- IVR was modified from its previous version to be compatible with the diagnostic criteria presented in the DSM-IV (Ambrosini, 2000; APA, 1994). The K-SADS- IVR can be used with children and adolescents aged 6 to 18 who are of normal intelligence and the interview is administered by a clinical interviewer trained to administer the K-SADS-IVR (Ambrosini). Administration time is approximately 90 minutes for the child interview and 90 minutes for the parent interview. For each symptom on the interview, a severity rating is given both for the highest severity of the symptom during the present episode and during the past week. Severity ratings typically range from zero to four or zero to six with higher scores indicating more severity. Ratings are given both from children and their caregivers during separate interviews and the interviewers provide a summary severity rating for each symptom by incorporating information from both child and caregiver. For this study, symptoms were considered clinically significant if they received a summary severity rating of 3 or more. Summary ratings of the presence and severity of symptoms in the present episode and the past week

are utilized in order to determine if a participant meets criteria for a diagnosis and diagnoses are determined based on DSM-IV (APA) criteria (Ambrosini).

There is limited psychometric information for the K-SADS- IVR since it is a recent version of the K-SADS, however, Ambrosini (2000) found perfect inter-rater agreement for the diagnoses of MDD, Minor Depression/Dysthymic Disorder, GAD, SAD, and Oppositional Defiant Disorder. They found a kappa of .80 for Attention Deficit Hyperactivity Disorder. In the present study, inter-rater agreement for the presence or absence of an anxiety disorder was computed for 20% of the pre-treatment K-SADS-IVR interviews (17 interviews) and there was agreement in 76.5% of the interviews. Additional psychometric information is available from other versions of this interview. The K-SADS IIIR has been found to have high inter-rater reliability when identifying depressive and anxiety disorders (Last & Strauss, 1990), good test-retest reliability (Apter, Orvaschel, Laseg, Moses, & Tyano, 1989), and high internal consistency (Ambrosini, Metz, Prabucki, & Lee, 1989). Internal consistency (coefficient alphas) have been reported to be at least .68 and test-retest reliabilities have been reported to be above .67 for the K-SADS IIIR depression summary scales (Chambers et al., 1985). Ambrosini et al. found that the depression scales had intraclass coefficients from .85 to .97 and the anxiety scales had intraclass coefficients from .86 to .98. They also reported coefficient alphas from .76 to .89 for the depression scales and .67 to .81 for the anxiety scales. Kaufman et al. (1997) investigated the psychometric properties of another version of the K-SADS, the K-SADS-P/L. They found test-retest reliabilities from .86 to 1.00 for lifetime diagnoses of depressive disorders and .90 for present diagnoses of MDD or

Dysthymia. In addition, they found test-retest reliabilities from .60 to .78 for lifetime diagnoses of anxiety disorders and from .67 to .80 for present anxiety diagnoses. They also determined that the average inter-rater agreement in assigning diagnoses was 98%. In addition, by comparing diagnoses from the K-SADS-P/L to scores on other depression measures such as the CDI and BYI, the authors determined that the K-SADS-P/L had high concurrent validity. Ambrosini explained that since the different versions of the K-SADS have stayed consistent with the current DSM criteria and reliability is high for the recent versions, these interviews can be used to help broaden our understanding of treatment outcome and psychopathology in youth.

A continuous total depression score can be calculated based on the K-SADS interview. This score is made up of the severity ratings for 17 depressive symptoms and the total score ranges from 17 to 97 (Ambrosini et al., 1989; Ambrosini, Metz, Bianchi, Rabinovich, & Undie, 1991). The symptoms included in this score are depressed mood, irritability, diurnal mood variation (morning only), excessive guilt, anhedonia, fatigue, diurnal variation of fatigue (morning only), difficulty concentrating, psychomotor agitation, psychomotor retardation, insomnia, hypersomnia, loss of appetite, increased appetite, hopelessness, avoidant behavior when depressed, and suicidal ideation. For the symptoms that are determined based on summary information from multiple items such as insomnia, just the severity for the overall symptom is included. According to Ambrosini et al. (1991), the total depression score is correlated with the BDI-Y for female adolescents. Psychometric data on this total score suggests that it is internally consistent with Cronbach's alphas ranging from .72 to .89 (Ambrosini et al., 1989;

Chambers et al., 1985). The test-retest reliability for this score has been reported to be (*r* = .81) (Chambers et al.).

This study used a slightly modified version of the continuous total depression score described above. An item measuring self-esteem adapted from the rating of negative self image in the Overanxious Disorder section was added to the depression score. Although this item is not in the depression section of the K-SADS-IVR, low self-esteem is a major symptom of Dysthymia making it an important symptom to include. The two anhedonia symptoms (loss of interest and loss of pleasure) were also added to the score. Social withdrawal was not included since this item was not included in the K-SADS-IVR and diurnal mood variation and diurnal variation of fatigue were also not included in the score. These modifications made the scale more consistent with the diagnostic criteria for depression in children. Summary ratings for the last week for each symptoms were used to create the total score. Previous research using a sample of girls from the larger treatment outcome project that this study was part of found that this modified total depression score had high internal reliability from .88 to .92, an inter-rater reliability of .91, and a correlation with the BDI-Y from .52 to .61 (Graves, 2007; Gray, 2006; Greenberg, 2008). In this study, the pre-treatment modified total depression score had an internal consistency (Cronbach's alpha) of .74 and the post-treatment modified total depression score had an internal consistency of .80. Inter-rater reliability was computed for the modified total depression score on 20% of the 84 pre-treatment interviews (17 interviews) and 20% of the 84 post-treatment interviews (17 interviews).

The pre-treatment inter-rater reliability for this score was .95 and the post-treatment inter-rater reliability was .91.

The present study also used a continuous total anxiety score to measure the severity of anxiety symptoms reported by study participants during the K-SADS-IVR interview. This score was made up of the severity ratings of anxiety symptoms that the DSM-IV (APA, 2000) lists as diagnostic criteria for the anxiety disorders assessed in the K-SADS-IVR (GAD, PTSD, Panic Disorder, Separation Anxiety, Specific Phobia, Social Phobia, and OCD). When participants screened out of a specific anxiety disorder section based on their responses to screening questions, all of the symptoms in that section were assigned a severity rating of 1 indicating that the symptom was not present. Inter-rater reliability for the continuous total anxiety score was computed based on 20% of the 84 pre-treatment interviews (17 interviews) in this study. The inter-rater reliability for the continuous anxiety score at pre-treatment was .91. The continuous total anxiety score had an internal consistency (Cronbach's alpha) of .89 for the sample of girls in this study.

The K-SADS-IVR also includes a global assessment scale, global severity and improvement scales, and the time of onset and offset for each diagnosis (Ambrosini, 2000). Participants scores on the CGAS (Shaffer et al., 1983), which is the global assessment scale included in the K-SADS-IVR, will be used in this study as a measure of the participants' global functioning. According to Shaffer et al., the CGAS has high inter-rater and test-retest reliabilities as well as good discriminant and concurrent validity. When determining a CGAS score, the instructions on the K-SADS-IVR protocol (Ambrosini & Dixon, 2000) instruct interviewers to provide a clinical rating of the

participant's actual functioning not taking into consideration prognosis or treatment. Functioning is determined based on the clinical judgment of the interviewer taking into consideration information provided by children and their parents during the interview. Scores for the CGAS range from 0 to 100 and guidelines are presented for what functioning would look like for scores of 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100. Intermediary scores (i.e., 22, 46, 65) are given when participants' functioning is between two levels of functioning. Ratings are given by the interviewer for the lowest level of functioning the participant has experienced during the present episode and the past week, however, only scores for the past week will be included in this study. Inter-rater reliability was computed for the CGAS based upon 20% of the pre-treatment interviews (17) and post-treatment interviews (17). The CGAS had an inter-rater reliability of .71 at pre-treatment and .89 at post-treatment.

Procedure

Screening and Assessment of Participants

The 91 girls who participated in this study were identified using a multiple-gate screening, identification, and assessment procedure (see Figure 1). The procedure used in this study involved screening as the first gate, identification as the second gate, and assessment as the third gate. The screening stage included multiple screenings that occurred in six middle schools and 14 elementary schools in two suburban central Texas school districts. Seven cohorts of participants were included who participated over the course of five years. The process of screening participants was slightly different for the two school districts in order to collect data for another part of the larger project on the

psychometric properties of the Children's Cognitive Style Questionnaire (CCSQ) and the BDI-Y. In one school district, the participants received the CCSQ and the CDI during screening and in the other school district participants received the BDI-Y and the CDI.

Girls in fourth through seventh grades who attended the elementary and middle schools in each district were invited to participate in the screening. Both researchers and staff from the school described the ACTION study to the girls and consent forms (Appendix L) along with letters explaining the study were sent home to the parents of all the girls in those grades (n=7,737). Classroom and homeroom teachers monitored the distribution and return of the consent forms. The 3,436 girls whose parents returned an affirmative consent form were invited to participate in the screening. During the first gate of screening, girls who received parental consent to participate attended a large group screening where they were first given an assent letter that was read aloud to them. They were asked to sign a child assent form (see Appendix M) if they agreed to participate. Girls at the screening then completed the CDI and the other measure (CCSQ or BDI-Y). Graduate Research Assistants (GRAs) read aloud the instructions for the measures and participants filled out the measures independently. Those girls with difficulty reading were given additional assistance reading and filling out the measures when necessary. The GRAs scored the measures as they were completed. A total of 3,396 girls completed the CDI as part of this screening.

The first cohort of the study was identified using a slightly different procedure than later cohorts. For girls in the first cohort, those who scored at least 16 on the CDI completed the CDI again 1 week later for the second gate of the screening (n=127*)* and

those who scored 16 or more on their second CDI (*n*=87*)* were invited to participate in the final gate, the diagnostic interview.

The second gate of the identification and assessment process was modified for cohorts two through seven in order to increase the accuracy and efficiency of identifying participants. For these cohorts, girls who scored 16 or more on the CDI completed the DSM Interview on the same day they completed the CDI. Some girls completed both the CDI and the BDI-Y. For these girls, participants with either a score of 16 or more on the CDI or a score of 25 or more on the BDI-Y completed the DSM Interview. In addition, participants who endorsed suicidal ideation on the self report measures were immediately administered the DSM Interview. The suicidal ideation item on the CDI, "I want to kill myself," was endorsed by 1.4% of the girls who completed the measure (*n*=48). The DSM Interview was administered to a total of 726 girls. The 2,670 girls who scored less than the cut-off necessary to receive a DSM Interview and the 221 girls who received a DSM Interview but depression was ruled out during the interview were given feedback letters to bring home to their parents thanking them for their participation (Appendices N and O).

Participants in cohort one who scored 16 or more on their second CDI and participants from cohorts two to seven who reported significant depressive symptoms on the DSM Interview were invited to participate in the final gate, the diagnostic interview (*n*= 505). Parents of these girls were contacted by phone and provided feedback about their daughters' reports on the self report measures and interview, provided with an explanation of the project, given information about safety concerns when relevant, and

were informed that a consent letter would be coming home with their daughters. Participants were given consent forms to bring home to their parents explaining that their daughter reported symptoms of depression and that she and her primary caregiver were being invited to complete the diagnostic interview (Appendix P). If parents gave consent, then the girl and her primary caregiver completed the K-SADS-IVR diagnostic interview independently with a doctoral student trained to administer this interview. The girls completed the interview at their school and the parents were interviewed over the phone or at a location convenient for them. Parental consent was given for 383 girls to participate in the K-SADS-IVR and 122 girls did not receive parental consent to participate.

DSM-IV (APA, 2000) diagnoses were determined based on taking into consideration information from both the child and parent. In most cases the same interviewer completed the child and parent interviews, however, in some cases if the parent did not speak English a second interviewer conducted the parent interview in Spanish. When this occurred, the two interviewers met to determine summary scores and diagnoses. The K-SADS-IVR parent and child interviews were audio taped and 20% were randomly chosen for another interviewer to listen to and provide ratings so that inter-rater reliability could be established. When the two raters had different ratings of symptoms or had assigned different diagnoses, the interviewers met to determine consensus ratings and diagnoses. This was very rare and did not occur at all for this sample.

Parents were given feedback about the results of the interview over the phone or in person in a location convenient for the parent. Parents of participants who received a primary diagnosis of a depressive disorder and who were eligible to participate in the study were told about the study during this feedback meeting and were sent home a letter explaining the treatment and the pre-treatment assessment with a consent form (see Appendix Q). A total of 383 K-SADS-IVR interviews were completed and 170 were invited to participate in treatment and 213 did not meet criteria. Girls who met criteria for comorbid psychiatric diagnoses were invited to participate in treatment as long as their depressive disorder was their primary diagnosis and their comorbid diagnosis was not expected to interfere with the treatment. When the possible impact of the comorbid condition on treatment was unclear, interviewers consulted with supervisors.

When children met criteria to participate in treatment, the families were invited to a meeting at the child's school where the therapist that would be working with the participant met with the families to explain the treatment consent forms and the treatment process. Parents that consented were then asked to complete pre-treatment measures including an intake form with information about the child and her family. The girls also completed a battery of pre-treatment measures. These measures were administered in small groups at the participant's school by trained doctoral students. Measures were read aloud for children with low reading levels. A total of 157 girls participated in the treatment portion of the study. They were each assigned to one of three groups, cognitive behavioral treatment, cognitive behavioral treatment plus parent training, or a minimal contact control group who received treatment after 11 weeks of being monitored. Within

2 days of completing treatment, the girls and their primary caregivers completed a post-treatment K-SADS-IVR interview. The girls also completed a battery of post-treatment measures within 2 days of completing treatment. Within a week of their daughters completing treatment, the primary caregivers completed a battery of post treatment measures.

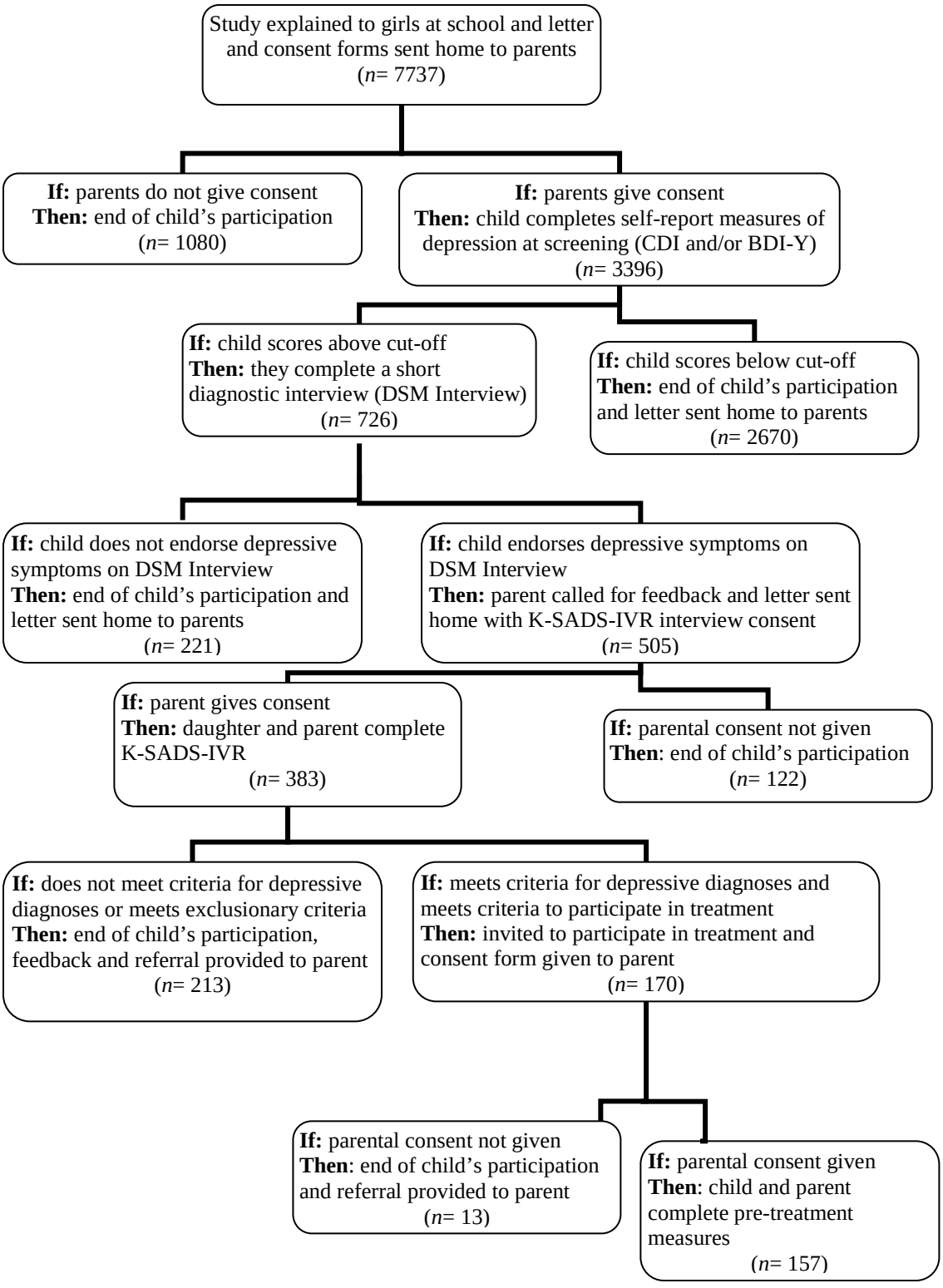

Figure 1: Flowchart of Multiple Gate Screening Process

Treatment Protocol

All 157 participants in the study received the ACTION treatment which is a cognitive behavioral intervention specifically designed for small groups of early adolescent girls with depression. The participants were randomly assigned to the ACTION Treatment with Parent Training, the ACTION Treatment alone, or the Minimal Contact Control Condition. The 48 girls in the Minimal Contact Control group were not included in the sample for this study. One hundred and nine girls were originally in the first two groups, but as mentioned previously, data from 25 of them were excluded from the analyses due to early termination (moved or dropped out of treatment) (n= 14), incomplete or unavailable post-treatment data (n= 3), non-standard treatment administration (n= 3), meeting criteria for PTSD (n= 4), or not understanding English well enough to fully participate in group (n= 1), leaving a sample of 84. The majority of the 14 girls who dropped out of treatment were unable to continue because they moved out of the area or to a new school. Of the 84 girls in the sample for the present study, 43 participated in the ACTION Treatment with Parent Training and 41 participated in the ACTION Treatment alone.

ACTION Group Treatment. The treatment was conducted in the participants' schools and followed a structured therapist's manual which included objectives and activities for each session (Stark, Simpson, et al., 2004) as well as a structured workbook the girls used during treatment (Stark, Schnoebelen, et al, 2004). Each ACTION therapist also had a kit of supplies they used for treatment including special cards that illustrated different skills, personalized goal sheets for the participants, "Smile Balls" to toss to the

participants when giving them compliments, and jump ropes or hula hoops to use for completing coping activities in the groups. The girls received the treatment in small groups of two to six girls. Each group met for 20 sessions and each girl had two individual sessions with the therapist. Each of these meetings was approximately 60 minutes long and the groups met two times per week for 10 weeks. When participants were absent for meetings, therapists met with them individually to cover the content of the meeting they missed to ensure that all of the girls received the full intervention.

The treatment was designed to appeal to young adolescent girls and involved fun activities that helped teach the girls specific skills they could use to reduce their depressive symptoms, social problems, and other difficulties they were experiencing. The meetings had a series of objectives that were met through activities and lessons. The girls practiced the skills they were learning in the groups and were assigned specific therapeutic homework to complete in their workbooks so they could apply the skills they were learning. An in session reward system was also part of the treatment and the girls were rewarded both for attending sessions and for completing their homework activities. Therapists reviewed completed homework and in group activities to monitor the progress of the participants.

Each ACTION meeting began with a few minutes of unstructured time called "chat time" where the girls could talk about things going on in their lives and bring up issues they wanted to discuss in the meeting. An agenda was then created with the therapist and girls working together to make a list of what would be covered during the meeting. Every other meeting, the therapist did a goal check with the participants to

determine the progress the girls had made on their individual goals. The girls received stickers for making progress on their goals and they put the stickers on a goal tracking worksheet so they could see the progress they were making. Then the therapist reviewed the points of the last meeting and started the activities for that meeting. Most of the meetings included time for doing a group coping strategy where the girls rated their mood before and after the activity to determine the effect coping had on their moods. The end of each meeting included a review of what the participants learned during the meeting. The girls also received compliments from the therapist at the end of each meeting. As the meetings continued they were asked to compliment one another and eventually themselves at the end of each meeting. The girls were then assigned their therapeutic homework which consisted of specific worksheets for them to fill out to help them apply specific skills between meetings. Each of the group meetings was structured to meet certain objectives. However, the therapists also individualized each meeting in order to fit with the case conceptualizations of the participants in their group and to help the participants to achieve their individual goals. The individual meetings focused on creating and updating individual goals, practicing and reviewing the skills from the group meetings, checking in with the girls about how they were progressing and how they were feeling about participating in ACTION, and addressing any issues the girl wanted to talk about without the other group members present.

The treatment was designed to help the participants to be able to identify and understand their emotions so they could then use skills to change their mood when they were feeling down. The three major skills taught in the group were coping strategies,

problem solving, and cognitive restructuring. The girls were taught how and when to use these skills. The main focus of the first set of meetings was on identifying and understanding emotions and the use of coping skills to maintain a positive mood and to use in situations that were upsetting them but that they could not change. The participants were taught that even when they could not change a stressful situation they could still change their mood.

The next set of meetings focused on using problem solving. The girls were taught to use a five step process to solve problems. The steps included defining the problem, determining what they wanted to have happen (i.e., their goal or purpose), generating possible plans, using a rating system to complete consequential thinking, and then self-reinforcement and self-evaluation of the progress they made towards goal attainment. The participants first learned to apply these steps to hypothetical problems and then learned to apply them to their own problems. They were taught to use problem solving when they had a problem that they could change.

The last half of the treatment focused on learning and then using cognitive restructuring to reduce negative thoughts and continued use of previously learned skills. The participants were taught to use two questions to talk back to their negative thoughts; What's another way of looking at it? and What's the evidence? They practiced talking back to their negative thoughts in group and were encouraged to practice talking back outside of group with homework activities. They were taught to use cognitive restructuring when they determined that a negative thought was causing them to see a situation unrealistically.

Once the participants had learned all three skills they were taught to use them together or individually to help them when they were feeling down. They were also taught that certain skills could be integrated with other skills. For example, a coping skill could be used to raise a participant's mood so that they would be able to use problem solving to change an undesirable situation. In addition, a main focus of the last half of the treatment was on helping the participants to develop a positive sense of self by identifying their strengths. This was completed through an activity in which the girls created a map of their strengths in different areas. The last meeting was a celebration of the progress the girls had made during group and focused on talking about how they could continue using the skills they had learned after group was over. All meetings were audio-taped and independent raters who were trained therapists listened to the full set of audio tapes for 15 of the 31 treatment groups and checked off whether the objectives for each meeting were covered. The 15 treatment groups that were rated included at least one group for each of the 12 therapists and an additional group for the three therapists that led four or more groups. The independent raters rated each of the objectives on a likert scale from zero to three. A rating of zero indicated that the objective was not covered, one indicated that the objective was minimally covered, two indicated the objective was adequately covered, and three indicated that the objective was completely covered (see Appendix R). Across the 15 groups that were rated, 83.99% of the objectives were adequately or completely covered (a rating of at least 2). In addition, in 13 of the 15 groups, 75% or more of the objectives were adequately or completely covered. The average score of all of the objectives across the 15 groups was 2.46. Refer to Tables 3

and 4 for additional information about the structure of the therapy sessions and the primary objectives and activities for each session.

Table 3

Outline of the Structure of Treatment Meetings

Rapport Building ("Chat Time")	A 5-minute discussion led by the participants as a time to get to know each other. Topics may or may not be relevant to treatment.
Goal Attainment Check-in	Incorporated in meeting 6 and presented every other meeting. Participants share progress of treatment goals, which therapist notes on chart. If there is no progress, problem solve accordingly.
Catch the Positive Check-in	Incorporated in meeting 5 and presented every other meeting. Allows participants to share positive events from their Catch the Positive Diary.
Set Agenda	Outlines therapist's plan for meeting and allows participants to add additional items to discuss.
Review Previous Meeting and Homework	Therapist encourages participants to recall main points from the last session and share therapeutic homework.
Skill Building/Coping Skill Activity	Varies session by session. See chart below.
Review	Therapist encourages participants to recall main points from the current meeting.
Positive Behavior Review	Meetings 1-3 the therapist identifies good participant behaviors; Meetings 4-10 participants compliment each other; Meetings 11-20 participants compliment selves.
Assign Homework	Therapeutic homework assigned. Homework content reflects objectives of meeting.
Rewards	Participants are provided with small incentives (i.e. stickers) for attending the session. More desirable incentives (i.e. glitter pens) are given for completing homework.

Table 4

Objectives and Skill Building Activities by Meeting

Meeting #	Objectives	Skill Building Activities
1	• Discuss parameters of meetings • Introduce counselors and participants • Establish rationale for treatment • Discuss confidentiality • Establish group rules, • Build group cohesion • Establish within group incentive system	*Sunglasses Activity*- Demonstration using dark vs. light sunglasses of how depression distorts the way we see things. *Web Activity*- Yarn is used to create web connecting group members as they share information about themselves (i.e. name and something they enjoy doing).
2	• Introduce participants to chat time and agenda setting • Establish pragmatics of completing homework • Introduction to mood meter, 3 B's, and Take ACTION List • Complete within session coping activity	*Mood Meter*- Participants introduced to rating their mood on a scale from 1 to 10 and how mood relates to brain, body, and behavior *Hula Hoop Activity*- Illustrates how doing fun things leads to improvement in mood. Therapist induces negative mood and participants rate mood, activity occurs, and participants rate elevated mood. *Take ACTION List*- Illustrates how doing fun things elevates mood. Participants identify fun activities that they can use to elevate mood outside of group.
3	• Discuss importance of thinking about meetings and doing practice • Focusing on the positive • Introduction to Catch the Positive Diaries • Educate clients about 3 B's • Introduction to 5 coping strategies.	*Candy/Rock Activity*- Illustrates how mood is affected by the situations one chooses to attend to. Participants choose to focus on the candy (positive) or rock in their shoe (negative). *Catch the Positive Diaries*- Participants use notebook to record daily positive events in their life. *3 B's*- A human cutout is used to educate participants about how to identify feelings through their body, brain and behavior. Examples of 3 B's are drawn onto cutout.

Individual Meeting 1	• Review therapeutic concepts • Development of treatment goals	
4	• Extend group cohesion • Review participant goals and strategies • Review and application of coping strategies • Complete coping skills activity	*Web Activity*- 2nd web introduced to extend group cohesion and have participants share goals with group. *Application of Coping*- Participants share situations they have faced where they may use coping strategies. *Coping Skill Activity*- Use an activity (i.e. freeze tag) that illustrates the impact of the 5 coping strategies.
5	• Catch the Positive Check-In • Experience impact of coping skills activity • Introduction, extension and application of problem solving • Introduction to brainstorming	*Candy/Rock Activity*- Illustrates how problem solving can be used to handle unpleasant circumstances. Participants use problem solving steps. *Solution Round Robin*- Participants practice generating multiple solutions using a problem solving sheet. *Coping Skills Activity*
6	• Goal Attainment Check-In • Demonstrate the role of cognition in emotion and behavior • Introduction to Thought Feeling-Coping Thought • Enactment of coping skills activity	*Thought Bubbles*- Demonstrates how thoughts determine how a person feels and behaves through the use of thought bubbles and emotion cards. *Coping Skills Activity*
7	• Catch the Positive Check-In • Apply problem solving to real life situations • Practice brainstorming activity • Experience coping skills activity	*Solution Race*- Helps participants to feel better by generating solutions to an identified problem. Two teams create a list of possible solutions to the problem. *Coping Skills Activity*
8	• Goal Attainment Check-In • Application of problem solving to teasing • Experience coping skills activity	*Application of Problem Solving*- Group applies problem solving to personal teasing experiences. *Coping Skills Activity*

9	• Catch the Positive Check-In • Applying problem solving to interpersonal problems • Experience coping skills activity	*Application of Problem Solving*- Elicit real life interpersonal difficulties and solve as a group. *Coping Skills Activity*
Individual Meeting 2	• Review therapeutic concepts • Goal attainment check-in • Identification of common negative thoughts • Individualizing Catch the Positive Diaries • Introduction to cognitive restructuring	
10	• Goal Attainment Check-In • Preparation for cognitive restructuring • Experience coping skills activity • Talking back to the Muck Monster	*Web Activity*- 3rd web introduced to check in on cohesion and support in order to prepare for talking about more personal topics. *Talking Back to Muck Monster*- Participants use coping statements to talk back to their negative thoughts. *Coping Skills Activity*
11	• Catch the Positive Check-In • Introduction of constructing perceptions • Illustration of how depression distorts thinking • Providing rationale for changing negative thoughts	*Storytelling Activity*- Participants construct individual story based on a picture to illustrate that we construct own perceptions and people see things differently. *Sunglasses Activity*- Participants identify negative thoughts with dark glasses and coping thoughts with bright glasses illustrating how depression distorts perceptions.
12	• Goal Attainment Check-In • Catching negative thoughts of group members • Introduction of Self-Map • Talking back to the Muck Monster	*Catching Negative Thoughts*- Participants are encouraged to catch negative thoughts of self or others for the remaining sessions. Participants are rewarded for catching and changing thoughts. *Self-Maps*- Participant strengths are identified in various categories (i.e. in school, as a person) to open themselves up to positive aspects of the self. Strengths are added to the map each meeting.

		Catch the Positive- Group brainstorms meaningful compliments for each participant. Focusing on the positive (i.e. individual compliments) is used to enhance mood after focusing on negative thoughts. *Talking Back to the Muck Monster*
13	• Catch the Positive Check-In • Catching negative thoughts • Continuation of self-maps • Introduction to Alternative Interpretation • Using Thought Judge questions • Applying Alternative Interpretation	*Catching Negative Thoughts* *Self-Map* *Alternative Interpretation Round Robin*- Using thought judge worksheet, participants identify difficult situation and participants provide alternative interpretations for each situation
14	• Goal Attainment Check-In • Catching Negative Thoughts • Continuation of Self-Maps • Talking back to the Muck Monster	*Catching Negative Thoughts* *Self-Map* *Talking Back to the Muck Monster*- Therapist acts as participant's muck monster, and each participant fights back using alternative interpretation.
15	• Catch the Positive Check-In • Catching Negative Thoughts • Continuation of Self-Maps • Introduction to What's the Evidence?	*Catching Negative Thoughts* *Self-Map* *Taking Your Thoughts to Court*- Using thought judge worksheet, participants provide clues for and against negative thoughts.
16	• Goal Attainment Check-In • Catching Negative Thoughts • Continuation of Self-Maps • Application of What's the Evidence • Preparing for Termination	*Catching Negative Thoughts* *Self-Map* *Talking Back to Muck Monster*- Participants practice using "What are the Clues?" to talk back to the therapist acting as the muck monster
17	• Catch the Positive Check-In • Continuation of Self-Maps • Integration and Application of cognitive restructuring • Preparing for Termination	*Self-Map* *Muck Monster UNO*- Participants practice talking back to their muck monster. Group members can choose to either draw cards or talk back when presented with a Draw two or Draw four card.

18	• Goal Attainment Check-In • Continuation of Self-Maps • Integration and Application of all skills • Preparing for Termination	*Self-Map* *Pull It All Together*- Use combination of skills to work through personal situations
19	• Catch the Positive Check-In • Drawing conclusions from Self-Maps • Web Activity to empower participants • Prepare for Goodbye to Depression • Preparing for Termination	*Self-Map*- Complete map is used to draw conclusions about self *Web Activity*- 4th web emphasized group support and ability to support self in preparation for separation *Prepare to Say Goodbye to Depression*- Participants write down most common negative thoughts in preparation to shred them.
20	• Saying Goodbye to the group • Saying Goodbye to negative thoughts and feelings • Preparing for termination	*Goodbye Cards*- Using cards, each group member writes down favorite positive memory of other members. *Goodbye to Depression*- Participants shred their negative thoughts and present new coping thought.

ACTION Parent Training. As mentioned above, parents of 43 of the participants were invited to complete parent training in addition to the ACTION group treatment. The focus of the parent training was on nurturing a strong and healthy relationship between the girls and their parents, teaching the parents the skills their children were learning so they could support the girls in using these skills, increasing positive reinforcement and decreasing punishment, and communicating with their daughters to reduce the girls' negative thoughts and reinforce their positive thoughts. Specific skills in this training included effective communication techniques, empathic listening, conflict resolution, and positive behavior management strategies. The families were also taught the importance of spending time as a family doing fun activities together in order to strengthen their relationships with one another.

The parent training component of the study consisted of eight weekly 90 minute group meetings and two individual family meetings that took place at the participants' schools usually during evening hours. The families were all provided with dinner and child care during the meetings. For the group meetings, the parents of all the girls in an ACTION group met together. The girls attended every other meeting with their parents allowing a chance for the families to practice using skills together. The individual family meetings focused on creating and monitoring family goals for treatment, checking in on how the meetings were going for the family and the girl, monitoring the progress of the parents and children with the skills they were learning, and working on family problems that the family preferred to discuss individually instead of in the group.

Training of Measures Administrators

Doctoral students with at least one year of experience working on the research project administered measures. The measures administrators were trained and supervised by the principal investigator and/or the project coordinator of the larger research study. Information about the administration and scoring instructions for each self report measure were taught to the measures administrators. At least one of the measures administrators present at each assessment period was trained in the assessment of suicidal risk.

Training of Interviewers

Parent and child K-SADS-IVR interviews were conducted by doctoral level GRAs in educational psychology. All interviewers had completed at least one year in the doctoral School Psychology program. Each interviewer received training in the administration and scoring of the K-SADS-IVR. This training was led by an advanced

doctoral student who had expertise in both diagnostic interview administration and child psychopathology. In addition, she was supervised by the principal investigator. Training of interviewers lasted approximately 6 months and about 50 hours of training was completed by each interviewer before he or she conducted interviews independently. Training consisted of listening to at least six previous interviews on audiotape and practicing rating symptoms, practicing interviews with volunteers and the trainer during training meetings, and learning general interview and clinical skills. In addition, each new interviewer was required to observe at least one interview conducted by a senior interviewer in person. Prior to conducting interviews on their own, each new interviewer had to demonstrate K-SADS-IVR competence in providing reliable symptom ratings. Interviewers were considered to have this competence when they could listen to an audio taped interview and accurately determine the absence, presence, and severity of symptoms of depressive disorders. Those interviewers who incorrectly identified the presence or absence of two or more depressive symptoms were provided with more training until they were able to meet this criterion. Once they met requirements, new interviewers administered their first interview with live supervision from a senior interviewer who provided them with feedback after the interview. All interviewers received weekly supervision on the administration and scoring of the interviews and individual supervision was provided on an as needed basis. In addition, the interview trainer reviewed the tapes of interviewers and provided feedback. Inter-rater reliability was computed for the modified total depression score before and after treatment, the CGAS score before and after treatment, and the total anxiety score before treatment. The

inter-rater reliability for the modified total depression score at pre-treatment was .95 and at post-treatment was .91. The CGAS had an inter-rater reliability of .71 at pre-treatment and .89 at post-treatment. The inter-rater reliability for the continuous anxiety score at pre-treatment was .91.

Training of Therapists

All of the therapists in this study were female doctoral level School Psychology students. All therapists completed a didactic course and a practicum in CBT prior to being a primary therapist for a group. Each therapist also participated in a training program led by the primary investigator of the larger study and senior therapists. This training included watching videos and listening to audiotapes of previous child and parent groups, role playing different situations in group, and learning how to best meet the objectives of the treatment for each meeting while also individualizing the treatment to the needs of the participants. After the training, each new therapist shadowed a senior therapist and observed all 20 group meetings and both individual meetings for all participants in a group. Once each new therapist completed the training and shadowing they either co-led a group with a senior therapist or led a group of girls in the minimal contact control condition with extensive supervision and feedback. Once the principal investigator determined that a therapist was qualified, she was assigned to run a therapy group. In addition, all therapists received weekly group and individual supervision from the principal investigator and audiotapes of the group and individual sessions were reviewed during these sessions.

Ethical Considerations

The data for this study was collected as part of a larger NIMH-funded study that was completed in two school districts in central Texas. The present study was conducted in compliance with the ethical issues and standards of research set for by the University of Texas at Austin and the American Psychological Association. The larger research study had received approval from the Departmental Review Committee within the Department of Educational Psychology and the Institutional Review Board of the University of Texas. The study was also approved by the superintendents of the two school districts. Prior to conducting data analysis for the present study, the researcher received approval from the Departmental Review Committee within the Department of Educational Psychology and the Institutional Review Board of the University of Texas (IRB Protocol # 2007-12-0026).

CHAPTER 4

Data Analyses

The preliminary analyses and main analyses are described under each of the hypotheses. A set of secondary analyses and their associated preliminary analyses are also discussed in the secondary analyses section. Overall preliminary analyses and descriptive statistics are presented below. All analyses were performed using SPSS version 16.0 (SPSS Inc., 2007).

Overall Preliminary Analyses

Analyses were conducted to explore whether the pre-treatment total depression score, the pre-treatment total anxiety score, and the pre-treatment global functioning score (CGAS) were related to grade, age, or race/ethnicity. Preliminary analyses were conducted to determine whether the data met the assumptions of normality. The *z*-scores for skewness and kurtosis for the pre-treatment continuous total depression score, the pre-treatment continuous total anxiety score, and the pre-treatment continuous global functioning score on the K-SADS-IVR were calculated to determine whether these variables met the assumption of normality. For the depression score, the *z*-score for skewness (1.73) and the *z*-score for kurtosis (-0.19) were acceptable since they were below the absolute value of 3.29 (Field, 2005). For the continuous total anxiety score, however, the *z*-scores for skewness (6.92) and kurtosis (10.46) were not acceptable and violated the assumption of normality. For the global functioning score, the *z*-score for skewness (-4.52) and the *z*-score for kurtosis (4.57) were also not acceptable since they were above the absolute value of 3.29 (Field, 2005). As a result, a non parametric

statistic, a Spearman's correlation coefficient, was calculated for the correlations involving the continuous total anxiety score and the global functioning score.

The Pearson correlation between the pre-treatment total depression score and age was not statistically significant (r =.17, p = .12), the Spearman correlation between pre-treatment total anxiety and age was not statistically significant (r_s =.12, p = .27), and the Spearman correlation between the pre-treatment CGAS score and age was not statistically significant (r_s =-.13, p = .25). According to Multivariate Analysis of Variance (MANOVA) results, pre-treatment total depression scores (F(3, 80)= 2.32, p = .08), pre-treatment CGAS scores (F(3, 80)= 1.53, p = .21), and pre-treatment total anxiety scores (F(3, 80)= 1.35, p = .26), were not significantly different by grade. Multivariate Analysis of Variance (MANOVA) results also suggested that pre-treatment total depression scores (F(5, 78)= .20, p = .96), pre-treatment CGAS scores (F(5, 78)= .80, p = .56), and pre-treatment total anxiety scores (F(5, 78)= 1.12, p = .34), were not significantly different by ethnicity. The results of the MANOVA investigating the relation between ethnicity and the three variables should be interpreted with caution, however, given that there were large differences in group size between the different ethnicity groups.

Additional analyses were conducted to assess the validity of using the presence of a comorbid anxiety diagnosis as a measure of comorbid anxiety. Analyses were conducted to ensure that the group of participants with a comorbid anxiety diagnosis differed significantly in terms of anxiety symptom presence and severity from the group of participants without a comorbid anxiety diagnosis. The continuous total anxiety score

from the K-SADS-IVR was used as a measure of the presence and severity of anxiety symptoms and a t-test was conducted to compare the continuous total anxiety scores of the two groups. Levene's test was performed to determine whether the homogeneity of variance assumption was met for these data. According to Levene's test, the variances of the two groups were significantly different, $F(1, 82) = 13.90$, $p < .001$. As a result, the "equal variances not assumed" *t*-test value was reported. An independent samples *t*-test was conducted to compare the pre-treatment mean continuous total anxiety scores for the girls with a comorbid anxiety disorder and depression and the girls with depression but no anxiety diagnosis. On average, the girls with anxiety disorders ($M = 88.95$, $SE = 1.88$) had higher pre-treatment continuous total anxiety scores on the K-SADS-IVR than the girls without anxiety disorders ($M = 72.00$, $SE = .63$). This difference was significant $t(46.61) = -8.53$, $p < .001$ and represented a large sized effect ($r = .69$). These results suggest that the group of girls with comorbid anxiety disorders had a significantly higher presence and severity of anxiety symptoms than those girls without a comorbid anxiety diagnosis.

Descriptive Statistics

Descriptive statistics including the means, standard deviations, Cronbach's alpha scores, and correlation coefficients for each of the main variables are presented in Table 5. All of the analyses discussed below used the total sample of 84 participants.

Table 5

Correlations Coefficients, Means, Standard Deviations, and Cronbach's Alphas for Main Variables

Variable	Pre-trtmt depression	Post-trtmt depression	Pre-trtmt CGAS	Post-trtmt CGAS	Pre-trtmt anxiety
Pre-trtmt depression	1.00	.09[a]	-.67[b]*	.02[a]	.46[b*]
Post-trtmt depression	.09[a]	1.00	-.10[b]	-.62[a]*	-.01[b]
Pre-trtmt CGAS	-.67[b]*	-.10[b]	1.00	.12[b]	-.36[b]*
Post-trtmt CGAS	.02[a]	-.62[a]*	.12[b]	1.00	-.19[b]
Pre-trtmt anxiety	.46[b*]	-.01[b]	-.36[b]*	-.19[b]	1.00
M	37.25	23.94	54.95	76.17	79.87
SD	8.22	6.19	7.05	10.65	12.05
α	.74	.80	N/A	N/A	.89

Note. [a]Pearson's product-moment correlation coefficient. [b]Spearman's correlation coefficient. *Represents significance at the .001 level. Pre and post-treatment depression = continuous total depression score on the K-SADS-IVR. Pre and post-treatment CGAS = Children's Global Assessment Scale on the K-SADS-IVR. Pre-treatment anxiety = continuous total anxiety score on the K-SADS-IVR.

Main Analyses

Hypothesis 1

Hypothesis 1 predicted that depressed girls with a comorbid anxiety disorder as determined by meeting diagnostic criteria at pre-treatment for one or more anxiety disorders on the K-SADS-IVR would have a significantly higher continuous total depression score on the K-SADS-IVR prior to treatment than depressed girls without a comorbid anxiety disorder.

Hypothesis 1 Preliminary Analyses. Preliminary analyses were conducted to determine whether the data met the assumptions necessary to perform an independent samples *t*-test. The *z*-scores for skewness and kurtosis for the pre-treatment continuous total depression score on the K-SADS-IVR were calculated to determine whether this variable met the assumption of normality. For the girls with anxiety disorders, the *z*-score

for skewness (0.78) and the *z*-score for kurtosis (-1.24) were acceptable since they were below the absolute value of 3.29 (Field, 2005). The *z*-scores for skewness (0.56) and kurtosis (0.83) were also acceptable for the girls without anxiety. Levene's test was performed to determine whether the homogeneity of variance assumption was met for these data. According to Levene's test, the variances of the two groups were significantly different, $F(1, 82) = 4.46$, $p < .05$. As a result, the "equal variances not assumed" *t*-test value was reported.

Hypothesis 1 Main Analyses. An independent samples t-test was conducted to compare the pre-treatment mean continuous total depression scores for the girls with comorbid anxiety and depression and the girls with depression but no anxiety.
On average, the girls with anxiety disorders ($M = 40.31$, $SE = 1.40$) had higher pre-treatment continuous total depression scores on the K-SADS-IVR than girls without anxiety disorders ($M = 34.6$, $SE = 1.01$) (see Table 6). This difference was significant $t(71.3) = -3.31$, $p < .01$ (see Table 7) and represented a medium sized effect ($r = .34$).

Table 6

Descriptive Statistics for Pre-treatment Total Depression Score Across Anxiety Diagnosis Groups

Anxiety Diagnosis	N	Mean	Mean Difference	Std. Error Mean
no anxiety	45	34.60	-5.71	1.01
anxiety	39	40.31	-5.71	1.40

Table 7

Independent Samples t-test Comparing Pre-treatment Total Depression Score Across Anxiety Diagnosis Groups

t-test for Equality of Means						
					95% Confidence Interval of the Difference	
t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
-3.31	71.31	.00	-5.71	1.73	-9.15	-2.27

Hypothesis 2

Hypothesis 2 predicted that depressed girls with a comorbid anxiety disorder as determined by meeting diagnostic criteria at pre-treatment for one or more anxiety disorders on the K-SADS-IVR would have a significantly lower global functioning score on the CGAS prior to treatment than depressed girls without a comorbid anxiety disorder.

Hypothesis 2 Preliminary Analyses. Preliminary analyses were conducted to determine whether the data met the assumptions necessary to perform an independent samples t-test. The z-scores for skewness and kurtosis for the pre-treatment global functioning score (CGAS) on the K-SADS-IVR were calculated to determine whether this variable met the assumption of normality. For the girls with anxiety disorders, the z-score for skewness (-2.84) and the z-score for kurtosis (1.31) were acceptable since they were below the absolute value of 3.29 (Field, 2005). The z-scores for skewness (-.13) and kurtosis (.41) were also acceptable for the girls without anxiety. Levene's test was performed to determine whether the homogeneity of variance assumption was met for this data. According to Levene's test, the variances of the two groups were significantly

different, F(1, 82) = 6.55, $p < .05$. As a result, the "equal variances not assumed" *t*-test value was reported.

Hypothesis 2 Main Analyses. An independent samples t-test was conducted to compare the pre-treatment global functioning scores for the girls with comorbid anxiety and depression and the girls with depression but no anxiety. On average, the girls with anxiety disorders ($M = 52.23$, $SE = 1.30$) had lower pre-treatment global functioning scores on the K-SADS-IVR than girls without anxiety disorders ($M = 57.31$, $SE = .74$) (see Table 8). This difference was significant $t(61.22) = 3.40$, $p < .01$ (see Table 9) and was a medium sized effect ($r = .35$).

Table 8

Descriptive Statistics for Pre-treatment CGAS Score Across Anxiety Diagnosis Groups

Anxiety Diagnosis	N	Mean	Mean Difference	Std. Error Mean
no anxiety	45	57.31	5.08	0.74
anxiety	39	52.23	5.08	1.30

Table 9

Independent Samples t-test Comparing Pre-treatment CGAS Score Across Anxiety Diagnosis Groups

t-test for Equality of Means						
					95% Confidence Interval of the Difference	
t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
3.40	61.22	.00	5.08	1.49	2.09	8.07

Hypothesis 3

Hypothesis 3 predicted that the presence of a comorbid anxiety disorder at pre-treatment as determined by meeting diagnostic criteria for one or more anxiety disorders on the K-SADS-IVR would be related to less reduction in depressive symptoms after treatment as measured by pre-treatment and post-treatment continuous total depression scores on the K-SADS-IVR.

Hypothesis 3 Preliminary Analyses. Preliminary analyses were conducted to determine whether the data met the assumptions necessary to perform a two-way repeated measures analysis of variance (ANOVA). The *z*-scores for skewness and kurtosis for the pre-treatment continuous total depression score on the K-SADS-IVR were already determined to meet the assumption of normality before performing the independent samples *t*-test discussed above. The *z*-scores for skewness and kurtosis for the post-treatment continuous total depression score on the K-SADS-IVR were calculated to determine whether this variable met the assumption of normality. For the girls with anxiety disorders, the *z*-score for skewness (1.16) and the *z*-score for kurtosis (-1.13) were acceptable since they were below the absolute value of 3.29 (Field, 2005). The z-score for skewness (2.67) and kurtosis (0.42) were also acceptable for the girls without anxiety. The assumption of sphericity is often tested when using repeated measures ANOVA, however, sphericity can only be evaluated when there are more than two conditions being compared (Field, 2005). Given that the analysis for hypothesis three involved only two conditions (anxiety and no anxiety), sphericity could not be tested. Levene's test was performed to determine whether the homogeneity of variance

assumption was met for the post-treatment continuous total depression score. According to Levene's test, the variances of the two groups were not significantly different, F(1, 82) = .03, p = .86, suggesting that the post-treatment continuous total depression score met the homogeneity of variance assumption. The pre-treatment continuous total depression score, however, did not meet the homogeneity of variance assumption as discussed in the Hypothesis 1 analyses. According to Stevens (1999), ANOVA is robust to violations of homogeneity of variance when sample sizes are equal or close to equal which he defines as the largest group being less than one and a half times the size of the smallest group. Since the groups being compared in this analysis are very close to equal (39 and 45), the ANOVA should be robust to the violation of homogeneity of variance.

Hypothesis 3 Main Analyses. A two-way repeated measures analysis of variance was conducted to determine whether there was an interaction between the presence of a comorbid anxiety diagnosis and the time (pre and post) of the total depression score. There was a significant interaction between the presence of an anxiety diagnosis and time (pre and post depression scores), F(1,82) = 4.75, $p < .05$ (see Table 10) with a medium effect size (Partial Eta Square = .06). As demonstrated in Figure 2, on average, the girls with anxiety disorders had a larger decrease in their depression scores from pre-treatment (M = 40.31, SD = 8.73) to post-treatment (M = 24.54, SD = 6.09) compared to girls with no anxiety disorders (pre-treatment: (M = 34.60, SD = 6.78), post-treatment: (M = 23.42, SD = 6.29) (see Table 11). In addition, there was a significant within subjects effect of time F(1,82) = 163.66, $p < .001$ (see Table 10) suggesting that the mean post-treatment total depression score for the girls (M = 23.94, SD = 6.19) was significantly lower than

the mean pre-treatment total depression score for the girls (*M* = 37.25, *SD* = 8.22) (see Table 11).

Table 10

Within-Subjects Effects for Repeated Measures ANOVA for Pre and Post-treatment Total Depression Scores Across Anxiety Diagnosis Groups

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Time	7585.58	1	7585.58	163.66	.00
Time * Anxiety Diagnosis	220.23	1	220.23	4.75	.03
Error(Time)	3800.75	82	46.35		

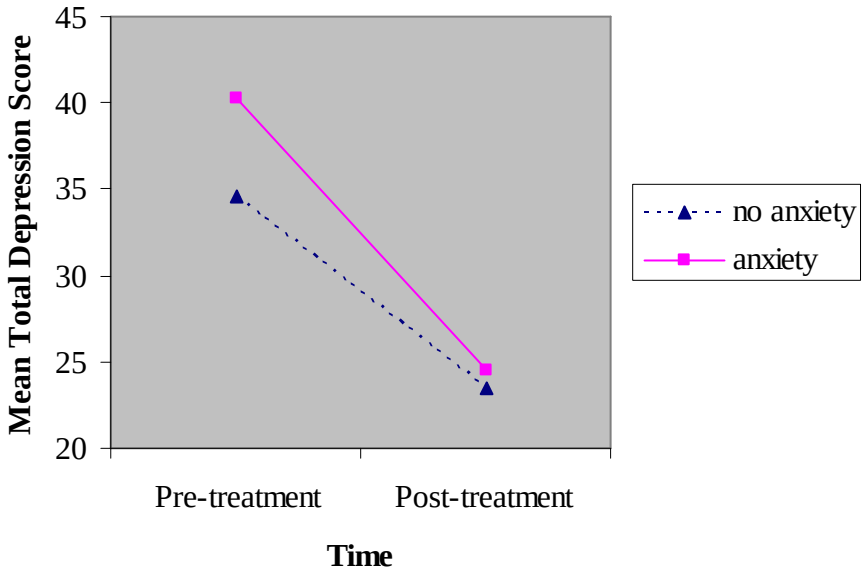

Figure 2: Total Depression Score at Pre-treatment and Post-treatment for Participants With and Without Comorbid Anxiety Diagnoses

Table 11

Descriptive Statistics for Pre-treatment and Post-treatment Total Depression Scores Across Anxiety Diagnosis Groups

Variable	Anxiety Diagnosis	N	Mean	Std. Deviation
Pre-treatment	no anxiety	45	34.60	6.78
Total Depression	anxiety	39	40.31	8.73
Score	total	84	37.25	8.22
Post-treatment	no anxiety	45	23.42	6.29
Total Depression	anxiety	39	24.54	6.09
Score	total	84	23.94	6.19

Hypothesis 4

Hypothesis 4 predicted that the presence of a comorbid anxiety disorder at pre-treatment as determined by meeting diagnostic criteria for one or more anxiety disorders on the K-SADS-IVR would be related to less improvement in global functioning after treatment as measured by pre-treatment and post-treatment scores on the CGAS.

Hypothesis 4 Preliminary Analyses. Preliminary analyses were conducted to determine whether the data met the assumptions necessary to perform a two-way repeated measures analysis of variance. The z-scores for skewness and kurtosis for the pre-treatment global functioning score (CGAS) on the K-SADS-IVR were already determined to meet the assumption of normality before performing the independent samples *t*-test as discussed in hypothesis 2. The *z*-scores for skewness and kurtosis for the post-treatment global functioning score (CGAS) on the K-SADS-IVR were calculated to determine whether this variable met the assumption of normality. For the girls with anxiety disorders, the *z*-score for skewness (-0.60) and the *z*-score for kurtosis (-0.67) were acceptable since they were below the absolute value of 3.29 (Field, 2005). The *z*-

score for skewness (-2.22) and kurtosis (-0.37) were also acceptable for the girls without anxiety. Levene's test was performed to determine whether the homogeneity of variance assumption was met for the post-treatment global functioning score (CGAS). According to Levene's test, the variances of the two groups were not significantly different, $F(1, 82) = .08$, $p = .78$, suggesting that the post-treatment CGAS score met the homogeneity of variance assumption. The pre-treatment global functioning score (CGAS), however, did not meet the homogeneity of variance assumption, as discussed in hypothesis 2. According to Stevens (1999), ANOVA is robust to violations of homogeneity of variance when sample sizes are equal or close to equal which he defines as the largest group being less than one and a half times the size of the smallest group. Since the groups being compared in this analysis are very close to equal (39 and 45), the ANOVA should be robust to the violation of homogeneity of variance.

Hypothesis 4 Main Analyses. A two-way repeated measures analysis of variance was conducted to determine whether there was an interaction between the presence of a comorbid anxiety diagnosis and the time (pre and post) of the global functioning score (CGAS). There was not a significant interaction between the presence of an anxiety diagnosis and time (pre and post treatment global functioning scores), $F(1,82) = 0.08$, $p = .77$ (see Table 12). As demonstrated in Figure 3, on average, the girls with anxiety disorders had similar differences between their pre-treatment ($M = 52.23$, $SD = 8.10$) and post-treatment ($M = 73.05$, $SD = 10.80$) scores compared to the girls with no anxiety disorders (pre-treatment: ($M = 57.31$, $SD = 4.97$), post-treatment: ($M = 78.87$, $SD = 9.85$)) (see Table 13). There was a significant within-subjects effect of time $F(1,82) = 275.95$, p

< .001 (see Table 12) meaning that the mean post-treatment global functioning score for the girls (*M* = 76.17, *SD* = 10.65) was significantly higher than the mean pre-treatment global functioning score for the girls (*M* = 54.95, *SD* = 7.05) (see Table 13).

Table 12

Within-Subjects Effects for Repeated Measures ANOVA for Pre and Post-treatment CGAS Scores Across Anxiety Diagnosis Groups

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Time	18758.98	1	18758.98	275.95	.00
Time * Anxiety Diagnosis	5.64	1	5.64	0.08	.77
Error(Time)	5574.43	82	67.98		

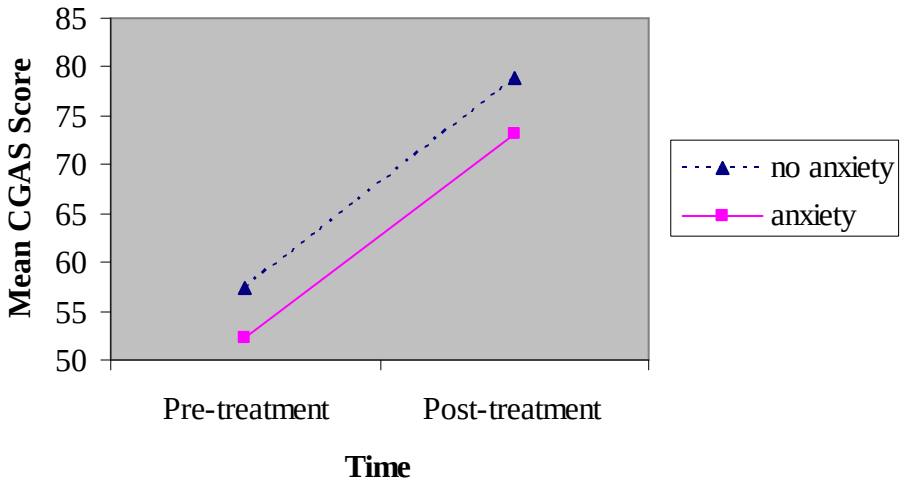

Figure 3: CGAS Score at Pre-treatment and Post-treatment for Participants With and Without Comorbid Anxiety Diagnoses

Table 13

Descriptive Statistics for Pre-treatment and Post-treatment CGAS Scores Across Anxiety Diagnosis Groups

Variable	Anxiety Diagnosis	N	Mean	Std. Deviation
	no anxiety	45	57.31	4.97
Pre-treatment	anxiety	39	52.23	8.10
CGAS Score	total	84	54.95	7.05
	no anxiety	45	78.87	9.85
Post-treatment	anxiety	39	73.05	10.80
CGAS Score	total	84	76.17	10.65

Hypothesis 5

Hypothesis 5 predicted that the relation between the presence of a comorbid anxiety disorder at pre-treatment and the change in depressive symptoms after treatment, as measured by pre-treatment and post-treatment continuous total depression scores, would be moderated by treatment condition. Participants were either in a CBT-only treatment condition or a CBT plus parent training treatment condition.

Hypothesis 5 Preliminary Analyses. Preliminary analyses were conducted to determine whether the data met the assumptions necessary to perform a three-way repeated measures analysis of variance. The z-scores for skewness and kurtosis for the pre-treatment and post-treatment continuous total depression score on the K-SADS-IVR were already determined to meet the assumption of normality before performing the analyses discussed above. According to Levene's test for the pre-treatment and post-treatment continuous total depression score, the variances between groups were not significantly different, (pre-treatment: $F(3, 80) = 2.49$, $p = .07$; post-treatment: $F(3, 80) =$

.54, p = .65), suggesting that both the pre-treatment and post-treatment continuous total depression score met the homogeneity of variance assumption.

Hypothesis 5 Main Analyses. A three-way repeated measures analysis of variance was conducted to determine whether there was a three way interaction between treatment condition, the presence of a comorbid anxiety diagnosis, and the time (pre and post) of the total depression severity score. Although the figures representing the relation between the presence of a comorbid anxiety diagnosis and the time (pre and post) of the total depression severity score for each treatment condition appear slightly different (see Figures 4 and 5), there was not a significant three way interaction between treatment condition, the presence of a comorbid anxiety diagnosis, and the time (pre and post) of the total depression score, $F(1,80) = .24$, $p = .63$ (see Table 14). The means and standard deviations of the pre and post depression scores for the different groups are presented in Table 15. The within subjects effect of time was at the same significance level that was found for Hypothesis 3 ($p < .001$) (see Tables 10 and 14). The interaction between time (pre and post-treatment total depression) and comorbid anxiety was slightly different than what was found in hypothesis three with a difference in significance (p value) from .03 (Hypothesis 3) to .04 (Hypothesis 5) (see Tables 10 and 14) which can most likely be accounted for by the difference in power that occurred by adding an additional variable to the analysis.

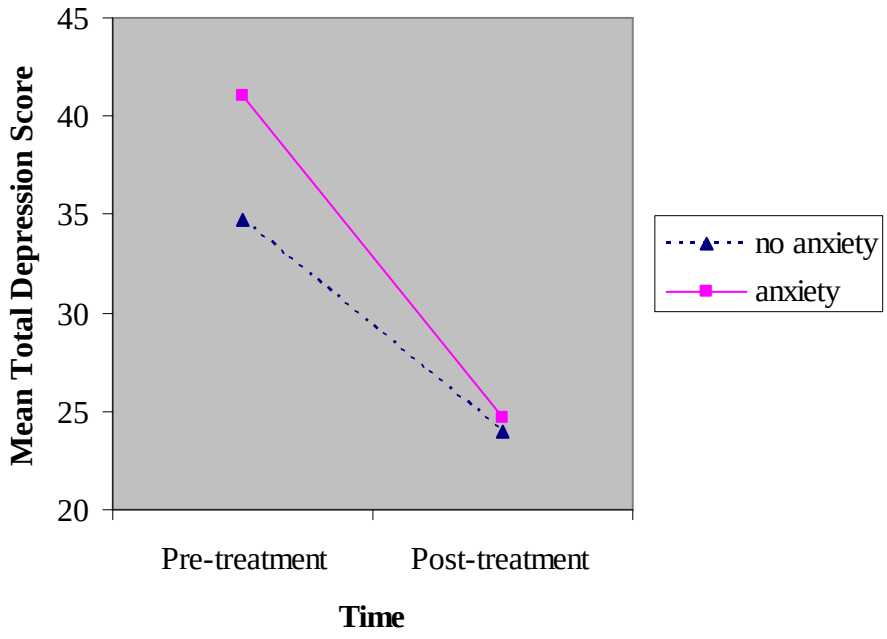

Figure 4: Total Depression Score at Pre-treatment and Post-treatment for Participants Who Received CBT and Parent Intervention by Comorbid Anxiety Diagnosis Group

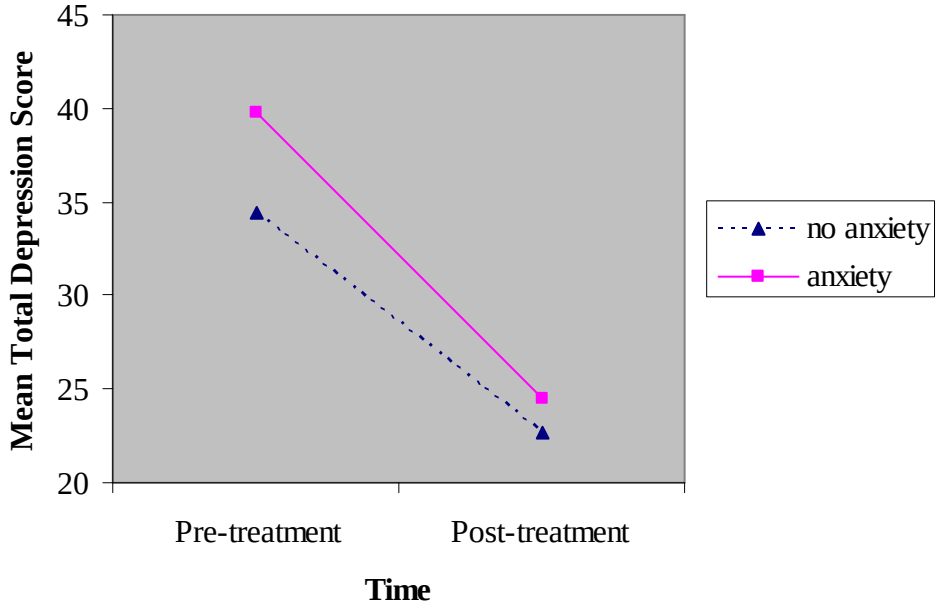

Figure 5: Total Depression Score at Pre-treatment and Post-treatment for Participants Who Received CBT Only by Comorbid Anxiety Diagnosis Group

Table 14

Within-Subjects Effects for Repeated Measures ANOVA for Pre and Post-treatment Total Depression Scores Across Anxiety Diagnosis Groups and Treatment Conditions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Time	7515.48	1	7515.48	158.66	.00
Time * Anxiety Diagnosis	215.60	1	215.60	4.55	.04
Time * Treatment Condition	.08	1	.08	.00	.97
Time *Anxiety Diagnosis * Treatment Condition	11.36	1	11.36	.24	.63
Error(Time)	3789.39	80	47.37		

Table 15

Descriptive Statistics for Pre-treatment and Post-treatment Total Depression Scores Across Anxiety Diagnosis Groups and Treatment Conditions

Variable	Anxiety Diagnosis	Treatment Condition	N	Mean	Std. Deviation
Pre-treatment Total Depression Score	no anxiety	CBT	19	34.37	8.17
		CBT+P	26	34.77	5.73
		Total	45	34.60	6.78
	anxiety	CBT	22	39.73	8.91
		CBT+P	17	41.06	8.71
		Total	39	40.31	8.73
	total	CBT	41	37.24	8.89
		CBT+P	43	37.26	7.62
		Total	84	37.25	8.22
Post-treatment Total Depression Score	no anxiety	CBT	19	22.63	6.66
		CBT+P	26	24.00	6.07
		Total	45	23.42	6.29
	anxiety	CBT	22	24.45	5.53
		CBT+P	17	24.65	6.92
		Total	39	24.54	6.09
	total	CBT	41	23.61	6.07
		CBT+P	43	24.26	6.35
		Total	84	23.94	6.19

Hypothesis 6

Hypothesis 6 predicted that the relation between the presence of a comorbid anxiety disorder at pre-treatment as determined by meeting diagnostic criteria for one or more anxiety disorders on the K-SADS-IVR and the change in global functioning scores after treatment as measured by pre-treatment and post-treatment global functioning scores

on the CGAS would be moderated by treatment condition. Participants were either in a CBT only treatment condition or a CBT plus parent training treatment condition.

Hypothesis 6 Preliminary Analyses. Preliminary analyses were conducted to determine whether the data met the assumptions necessary to perform a three-way repeated measures analysis of variance The z-scores for skewness and kurtosis for the pre-treatment and post-treatment global functioning scores were already determined to meet the assumption of normality before performing the analyses discussed above. The assumption of sphericity is often tested when running repeated measures ANOVA, however, sphericity can only be evaluated when there are more than two conditions being compared (Field, 2005). Hypothesis six compared only two conditions for both between-subjects factors (anxiety and no anxiety; CBT and CBT with parent training), so sphericity could not be tested. Levene's test was performed to determine whether the homogeneity of variance assumption was met for the pre and post-treatment CGAS scores. According to Levene's test for the pre-treatment CGAS score, $F(3, 80) = 2.06$, $p = .11$, and post-treatment CGAS score, $F(3, 80) = .23$, $p = .88$, the variances between groups were not significantly different for either score. These results suggested that both the pre and post-treatment CGAS scores met the homogeneity of variance assumption.

Hypothesis 6 Main Analyses. A three-way repeated measures analysis of variance was conducted to determine whether there was a three way interaction between treatment condition, the presence of a comorbid anxiety diagnosis, and the time (pre and post) of the global functioning score. There was not a significant three-way interaction between treatment condition, the presence of a comorbid anxiety diagnosis, and the time (pre and

post) of the global functioning score, F(1,80) = .39, p = .54 (see Table 16). Figures 6 and 7 illustrate that the relation between comorbid anxiety and the time (pre and post) of the global functioning score was very similar between treatment conditions. The means and standard deviations of the pre and post CGAS scores for the different groups are presented in Table 17. The within subjects effect of time was at the same significance level that was found for Hypothesis 4 (p < .001) (see Tables 12 and 16). The interaction between time (pre and post-treatment global functioning) and comorbid anxiety was slightly different than what was found in hypothesis 4 with a difference in significance (p value) from .77 (Hypothesis 4) to .80 (Hypothesis 6) (see Tables 12 and 16) which can most likely be accounted for by the difference in power that occurred by adding an additional variable to the analysis.

Table 16

Within-Subjects Effects for Repeated Measures ANOVA for Pre and Post-treatment CGAS Scores Across Anxiety Diagnosis Groups and Treatment Conditions

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Time	18575.70	1	18575.70	267.98	.00
Time * Anxiety Diagnosis	4.67	1	4.67	0.07	.80
Time * Treatment Condition	3.40	1	3.40	.05	.83
Time *Anxiety Diagnosis * Treatment Condition	26.83	1	26.83	.39	.54
Error(Time)	5545.36	80	69.32		

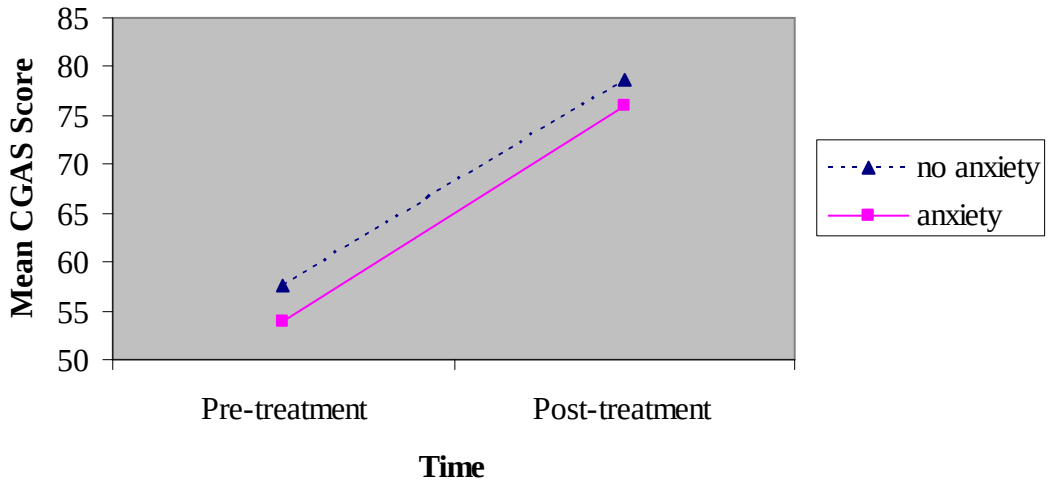

Figure 6: CGAS Score at Pre-treatment and Post-treatment for Participants Who Received CBT and Parent Intervention by Comorbid Anxiety Diagnosis Group

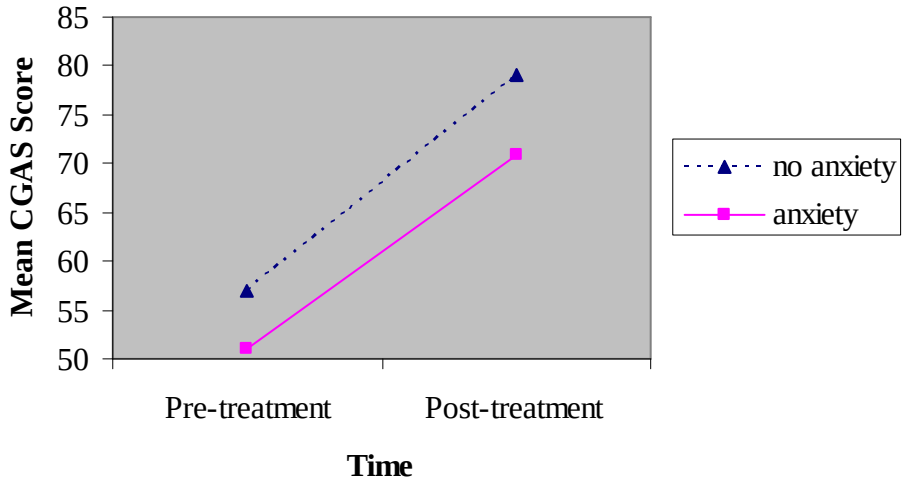

Figure 7: CGAS Score at Pre-treatment and Post-treatment for Participants Who Received CBT Only by Comorbid Anxiety Diagnosis Group

Table 17

Descriptive Statistics for Pre-treatment and Post-treatment CGAS Scores Across Anxiety Diagnosis Groups and Treatment Conditions

Variable	Anxiety Diagnosis	Treatment Condition	N	Mean	Std. Deviation
Pre-treatment Total Depression Score	no anxiety	CBT	19	56.89	5.08
		CBT+P	26	57.62	4.97
		Total	45	57.31	4.97
	anxiety	CBT	22	50.95	8.26
		CBT+P	17	53.88	7.83
		Total	39	52.23	8.10
	total	CBT	41	53.71	7.51
		CBT+P	43	56.14	6.44
		Total	84	54.95	7.05
Post-treatment Total Depression Score	no anxiety	CBT	19	79.05	10.34
		CBT+P	26	78.73	9.68
		Total	45	78.87	9.85
	anxiety	CBT	22	70.82	10.72
		CBT+P	17	75.94	10.50
		Total	39	73.05	10.80
	total	CBT	41	74.63	11.22
		CBT+P	43	77.63	9.98
		Total	84	76.17	10.65

Secondary Analyses

Secondary analyses were conducted to further explore the first four hypotheses. Analyses were conducted for these hypotheses using a continuous total anxiety score from the K-SADS-IVR in place of comparing the group of girls who had a comorbid anxiety diagnosis to the group of girls without a comorbid anxiety diagnosis. This continuous total anxiety score was based on the presence and severity of anxiety

symptoms endorsed on the K-SADS-IVR. Correlation and regression analyses were conducted to further explore these hypotheses.

Hypothesis 1 Secondary Analysis

Based on the independent samples t-test conducted for Hypothesis 1, it would be expected that the pre-treatment continuous total depression score on the K-SADS-IVR would be significantly correlated with the pre-treatment continuous total anxiety score at pre-treatment. Preliminary analyses were conducted to determine whether the data met the assumptions of normality. The *z*-scores for skewness and kurtosis for the pre-treatment continuous total depression score and the pre-treatment continuous total anxiety score on the K-SADS-IVR were calculated to determine whether these variables met the assumption of normality. For the pre-treatment depression score, the *z*-score for skewness (1.73) and the *z*-score for kurtosis (-0.19) were acceptable since they were below the absolute value of 3.29 (Field, 2005). For the continuous total anxiety score, however, the *z*-scores for skewness (6.92) and kurtosis (10.46) were not acceptable and violated the assumption of normality. As a result, a non parametric statistic, a Spearman's correlation coefficient, was calculated. The Spearman test suggested that the pre-treatment depression score and the pre-treatment anxiety score had a correlation of $r_s = .46$, $p < .001$ (see Table 18), which is consistent with the findings from the primary analysis of Hypothesis 1.

Table 18

Spearman's Correlation Between Pre-treatment Total Depression Score and Pre-treatment Total Anxiety Score

		Pre-treatment Total Anxiety Score
Pre-treatment Total Depression Score	Correlation Coefficient	.46
	Sig. (2-tailed)	.00
	N	84

Hypothesis 2 Secondary Analysis

Based on the independent samples *t*-test conducted for Hypothesis 2, it would be expected that the pre-treatment global functioning score (CGAS) on the K-SADS-IVR would be significantly correlated with the pre-treatment continuous total anxiety score at pre-treatment. Preliminary analyses were conducted to determine whether the data met the assumptions of normality. The *z*-scores for skewness and kurtosis for the pre-treatment continuous global functioning score were calculated to determine whether this variable met the assumption of normality. For the pre-treatment global functioning score, the z-score for skewness (-4.52) and the *z*-score for kurtosis (4.57) were not acceptable since they were above the absolute value of 3.29 (Field, 2005). As determined in the Hypothesis 1 secondary analyses, the continuous anxiety score also violated the assumption of normality. As a result, a non parametric statistic, a Spearman's correlation coefficient, was calculated. The Spearman test suggested that the pre-treatment global functioning score and the pre-treatment anxiety score had a correlation of $r_s = -.36$, $p < .01$ (see Table 19), which is consistent with the findings from the primary analysis of Hypothesis 2.

Table 19

Spearman's Correlation Between Pre-treatment CGAS Score and Pre-treatment Total Anxiety Score

		Pre-treatment Total Anxiety Score
Pre-treatment CGAS Score	Correlation Coefficient	-.36
	Sig. (2-tailed)	.00
	N	84

Hypothesis 3 Secondary Analysis

Based on the two-way repeated measures ANOVA conducted for Hypothesis 3, it would be expected that there would be a significant interaction between the pre-treatment continuous total depression score and the pre-treatment continuous anxiety score with multiple regression analysis. Preliminary analyses were conducted to determine whether the data met the assumptions of regression. Previous preliminary analyses discussed above suggested that there was not perfect multicollinearity between the predictors and the predictors were not correlated with grade, age, or race/ethnicity. A Durbin-Watson test was conducted on the data which produced a value of 1.85, suggesting that the assumption of independent errors was most likely met (Field, 2005). The scatterplot of residuals suggested that the assumptions of homescedasticity and linearity had been met as well (see Figure 8). The histogram and normal probability plot suggested that the data met the assumption of normally distributed errors (see Figures 9 and 10). Since the assumptions of multiple regression were met, a multiple regression analysis was

conducted. Pre-treatment depression scores, pre-treatment anxiety scores, and the cross-product between pre-treatment depression and anxiety were entered as predictors and the dependent variable was post-treatment depression. As Table 20 illustrates, the interaction (cross-product) between pre-treatment depression and pre-treatment anxiety was not significant (p = .21), which is inconsistent with the results of the primary analysis of Hypothesis 3.

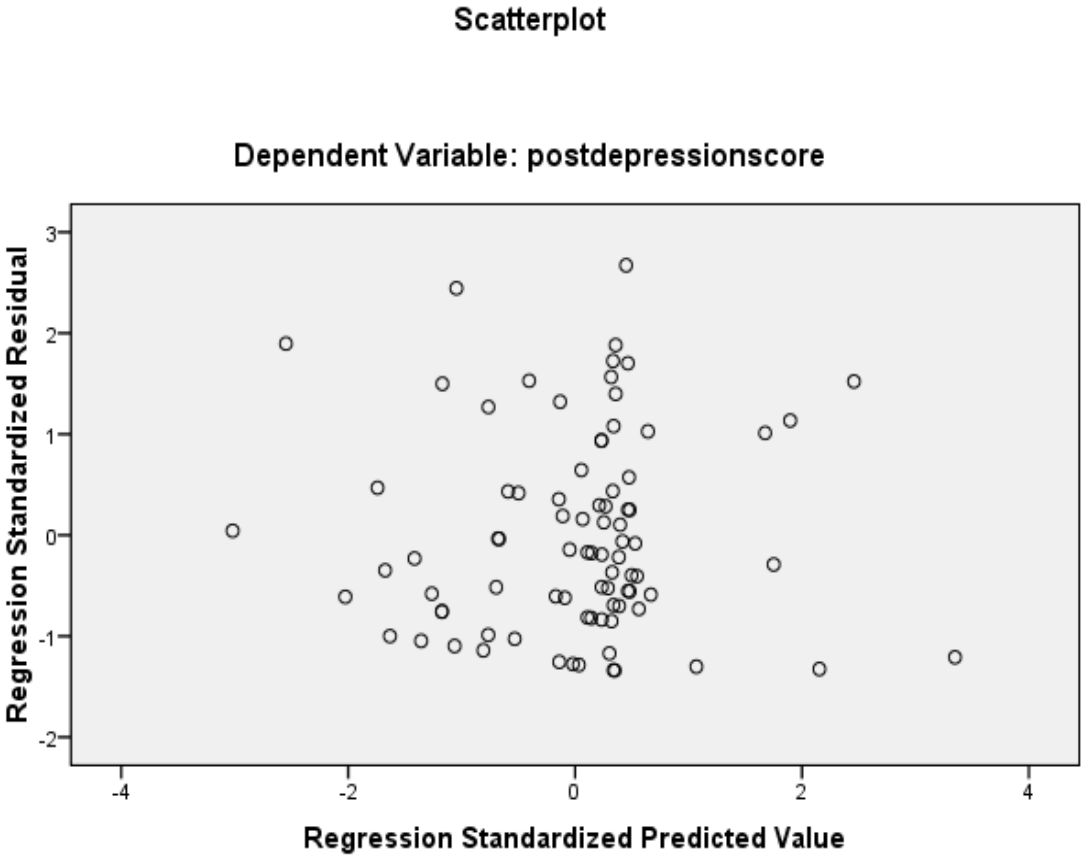

Figure 8: Scatterplot of Residuals for the Post-treatment Total Depression Score

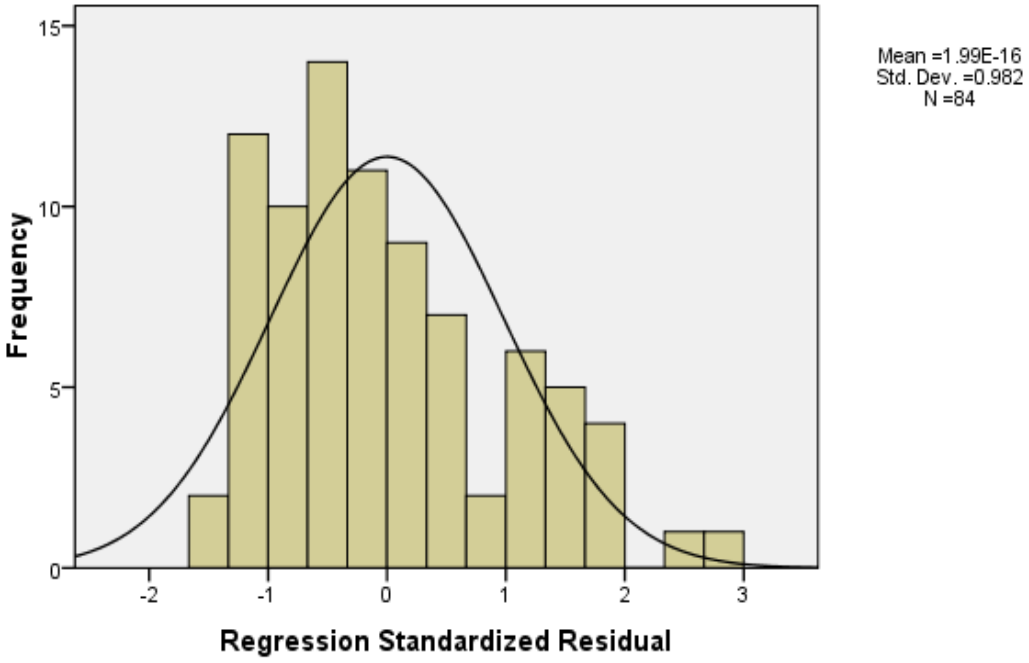

Figure 9: Histogram of the Post-treatment Total Depression Score

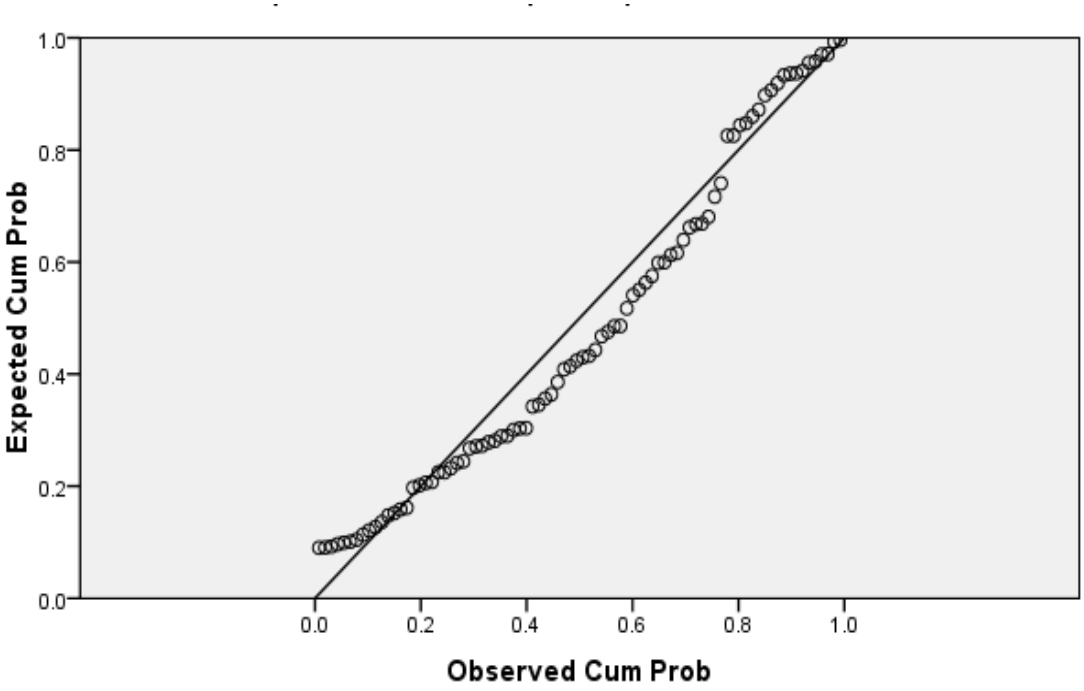

Figure 10: Normal Probability Plot for the Post-treatment Total Depression Score

Table 20

Summary of Multiple Regression Analysis for Pre-treatment Total Depression Score and Pre-treatment Total Anxiety Score Predicting Post-treatment Total Depression Score

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	23.50	.76		30.91	.00
Pre-treatment Total Anxiety Score	-.08	.08	-.15	-1.02	.31
Pre-treatment Total Depression Score	.08	.10	.10	.79	.43
Interaction Between Pre-treatment Total Depression and Total Anxiety Scores	.01	.01	.18	1.28	.21

Hypothesis 4 Secondary Analysis

Based on the two-way repeated measures ANOVA conducted for Hypothesis 4, it would be expected that there would not be a significant interaction between the pre-treatment global functioning score and the pre-treatment continuous total anxiety score with a multiple regression analysis. Preliminary analyses were conducted to determine whether the data met the assumptions of regression. Previous preliminary analyses discussed above suggested that there was not perfect multicollinearity between the predictors and the predictors were not correlated with external variables. A Durbin-Watson test was conducted on the data which produced a value of 2.01, suggesting that

the assumption of independent errors is most likely met (Field, 2005). The scatterplot of residuals suggested that the assumption of linearity had been met, however, the scatterplot suggested heteroscedasticity (see Figure 11). The histogram and normal probability plot suggested that the data met the assumption of normally distributed errors (see Figures 12 and 13). Since the assumption of homoscedasticity was violated, the results of the regression analyses should be interpreted with caution. Pre-treatment global functioning scores, pre-treatment anxiety scores, and the interaction between pre-treatment global functioning and anxiety were entered as predictors and the dependent variable was post-treatment global functioning. As Table 21 illustrates, the interaction between pre-treatment global functioning and pre-treatment anxiety was not significant (p = .51), which is consistent with the results of the primary analysis of Hypothesis 4.

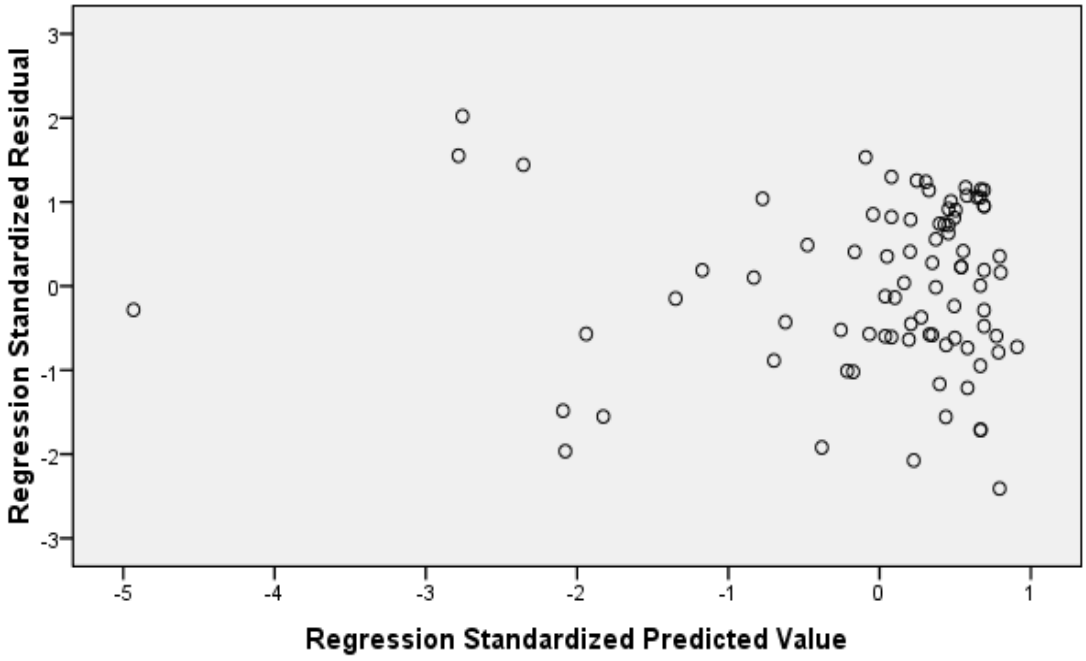

Figure 11: Scatterplot of Residuals for the Post-treatment CGAS Score

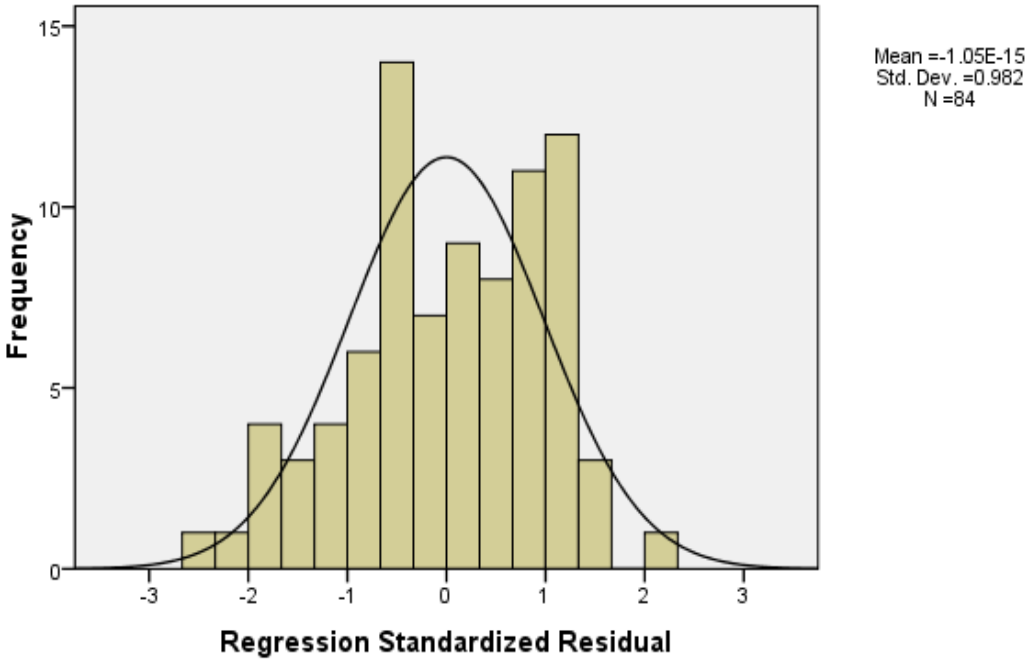

Figure 12: Histogram of the Post-treatment CGAS Score

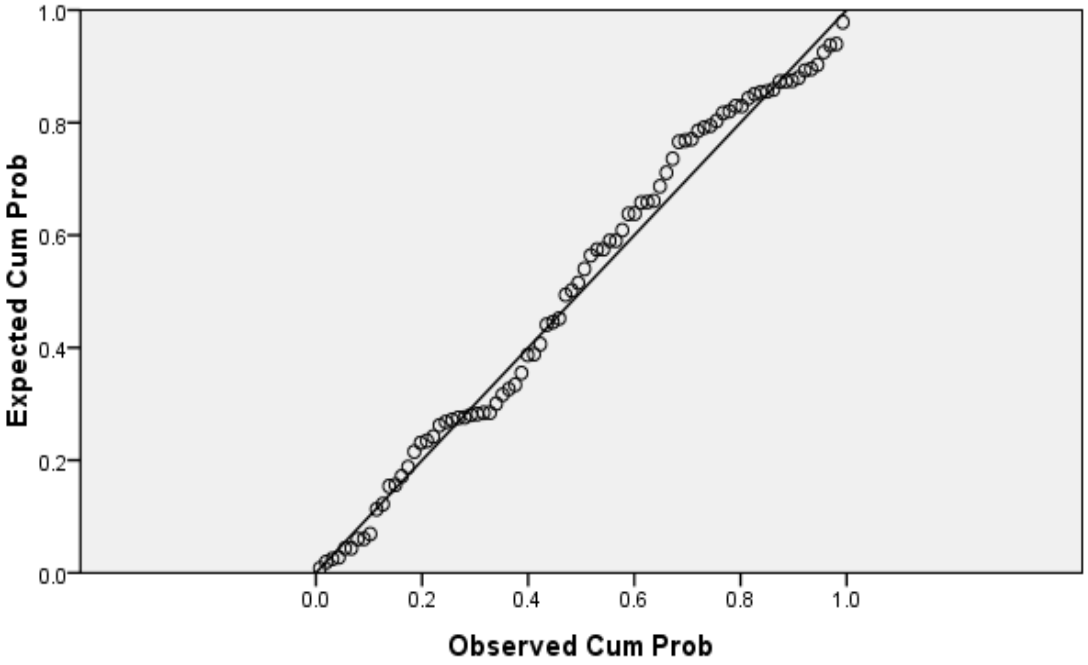

Figure 13: Normal Probability Plot for the Post-treatment CGAS Score

Table 21

Summary of Multiple Regression Analysis for Pre-treatment CGAS Score and Pre-treatment Total Anxiety Score Predicting Post-treatment CGAS Score

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
(Constant)	76.50	1.25		61.29	.00
Pre-treatment Total Anxiety Score	.16	.18	.11	.87	.39
Pre-treatment Total Depression Score	-.11	.12	-.13	-.97	.33
Interaction Between Pre-treatment Total Depression and Total Anxiety Scores	.01	.01	.08	.66	.51

CHAPTER 5

Discussion

Overview of Findings and Integration with Previous Research

Summary of Findings

The results of the present study build on existing research to improve our understanding of the symptomatology, functioning, and treatment response of girls with comorbid anxiety and depression. Findings from this study provide further evidence that both the presence and severity of comorbid anxiety are related to more severe depressive symptoms and lower functioning in depressed early adolescent girls. The results also suggested that comorbid anxiety was not related to negative treatment outcomes for early adolescent girls with depression. In fact, the findings of this study highlighted that although the girls with comorbid anxiety started out much worse before treatment, they experienced significantly larger reductions in depression severity and comparable gains in global functioning to girls without anxiety during treatment. The presence of parent intervention did not appear to significantly change the relation between comorbid anxiety and treatment outcome. The findings from this study have major implications for both the understanding of comorbid anxiety and depression and the treatment of girls experiencing depression and anxiety. The remainder of this section presents the results for the different hypotheses explored in this study and includes a discussion of how these results relate to previous research findings.

Depression Severity and Global Functioning Before Treatment (Hypotheses 1 and 2)

As hypothesized, the results of the present investigation suggested that the presence of comorbid anxiety was related to depressive symptom severity and global functioning prior to treatment. The girls who met diagnostic criteria for comorbid anxiety disorders appeared to experience more severe depressive symptoms and lower global functioning before treatment compared to the girls without anxiety disorders. In addition, the secondary analyses of hypotheses 1 and 2 suggested that there was a significant relation between the severity of anxiety symptoms and both the severity of depressive symptoms and global functioning scores before treatment. It appears that as the presence and severity of anxiety symptoms increase in early adolescent girls, the severity and presence of depressive symptoms increase and overall global functioning becomes worse. The findings of this investigation provide additional evidence of the strong relation between depression and anxiety in early adolescent girls and the negative implications of having both depression and anxiety.

The results of hypothesis 1 are consistent with previous research findings and provide further evidence suggesting that youth with comorbid depression and anxiety have more severe depressive symptoms than depressed youth without anxiety (Mitchell et al., 1988; Rohde et al., 2001; Stark et al., 1993; Young et al., 2006). The significant correlation found between depression and anxiety severity in the secondary analysis of hypothesis one is also consistent with the results of Ghaziuddin et al.'s (2000) study whose results suggested that anxiety symptom severity was correlated with depression severity in a sample of adolescents.

Hypothesis 2 was exploratory because there was limited research exploring global functioning in youth with comorbid anxiety and depression. The results of the analyses for hypothesis 2, however, are consistent with what is currently understood about comorbid depression and anxiety and depression comorbidity in general. Rohde et al.'s (2001) investigation found that depressed youth who reported comorbidity during their lifetimes had lower functioning than depressed youth without a history of comorbidity. Previous research has also suggested that depressed youth with comorbid anxiety experience earlier depression onset, increased suicidal ideation, more severe depression, and more depressive symptomatology than children without comorbid anxiety (Ghaziuddin et al., 2000; Kendall et al., 1992; Kovacs et al., 1989; Mitchell et al., 1988; Rohde et al., 2001; Stark et al., 1993; Young et al, 2006). Given that comorbid anxiety is related to so many negative outcomes in depressed youth, it makes sense that the results of this study suggested that the presence of a comorbid anxiety diagnosis and the severity of anxiety symptoms were related to the overall functioning of girls with depression.

The results of the current investigation along with the findings of previous research suggest that depressed youth with comorbid anxiety are at risk for more severe depression and lower global functioning. These findings further illustrate the importance of developing effective interventions for these youth.

Comorbid Anxiety and Treatment Outcome (Hypotheses 3 and 4)

The results of the analyses for hypotheses 3 and 4 were significantly different from what was expected based on previous research with older adolescents. It was hypothesized that the early adolescent girls with comorbid anxiety that participated in this

study would not benefit from the treatment as much as the girls without comorbid anxiety, similarly to the older adolescents with comorbid anxiety that participated in several previous treatment studies (Brent et al., 1998, Clarke et al., 1992, Curry et al., 2006). Instead, the results of the present study suggested that comorbid anxiety was not related to worse treatment outcome, in terms of depression severity or global functioning. In fact, the primary analysis of hypothesis 3 suggested that the girls with comorbid anxiety experienced significantly more change in depression severity during treatment than girls without comorbid anxiety.

The results of the primary analysis of hypothesis 3 suggested that the girls with both anxiety and depression started treatment with significantly more severe depression but were able to reduce their depression severity scores even more than the girls without anxiety disorders during treatment. Conversely, the secondary analysis of hypothesis 3 suggested that severity of anxiety symptoms was not a significant predictor of change in depression severity during treatment. Interpreting both the primary analysis and secondary analyses of hypothesis 3 together would suggest that girls with a comorbid anxiety disorder may have been more likely to experience larger changes in depression severity over the course of treatment than girls without a comorbid anxiety disorder, however, the severity of anxiety symptoms was not related to changes in depression severity during treatment. Despite the complexity of this distinction, one result was clear from both the primary and secondary analyses of hypothesis 3, comorbid anxiety was not related to worse treatment outcome for depressed early adolescent girls.

The results of both the primary and secondary analyses for hypothesis 4 were more straightforward. Neither the presence of comorbid anxiety nor the severity of anxiety symptoms were related to changes in global functioning during treatment. The girls with comorbid anxiety in the study did not make less improvement in terms of their global functioning than the girls without comorbid anxiety, but they also did not make more improvement.

Although the results of the analyses for hypotheses 3 and 4 were significantly different from the results of the studies by Brent et al. (1998), Clarke et al. (1992), and Curry et al. (2006), the results were very consistent with the findings of Rohde et al. (2001). Rohde et al.'s study findings were difficult to interpret because the study had several limitations that influenced the validity of their findings. The researchers used measures of lifetime comorbidity instead of current comorbidity and excluded people currently experiencing common anxiety disorders including GAD and Panic Disorder from their study. As a result, their study results did not provide information about the influence of current anxiety comorbidity on treatment outcome. Despite the differences in how comorbidity was measured between the Rohde et al. study and the current study, the results were very similar. Similarly to the current study, in Rohde et al.'s investigation the adolescents with comorbid anxiety started out with higher pre-treatment depression severity but had a significantly greater reduction in depression severity after treatment than those without anxiety.

It is important to determine why the results of the present study may be different from the results of the studies by Brent et al. (1998), Clarke et al. (1992), and Curry et al.

(2006). There are several possible explanations for the differing results. One possible explanation, suggested by Brent et al.'s (1998) study, is that CBT could be an intervention that is not as negatively influenced by comorbid anxiety as other interventions. The adolescents in Brent et al.'s (1998) study received either CBT, systemic behavioral family therapy (SBFT), or nondirective supportive therapy (NST) (Brent et al., 1997). Although Brent et al. (1998) found that overall the presence of a comorbid anxiety disorder at intake predicted depression at the end of treatment, their results also suggested that the adolescents with comorbid anxiety benefited more from the CBT treatment than the two other treatments. As a result, it may be possible that the relation between comorbid anxiety and worse treatment outcome may not have been as strong if all of the adolescents had received CBT. The findings by Jayson et al. (1998) and Young et al. (2006) provide further support for the idea that CBT may be more robust to comorbid anxiety than other treatments. Young et al. found that comorbid anxiety was related to worse treatment outcome (changes in depression severity) for adolescents receiving Interpersonal Psychotherapy for Depressed Adolescents (IPT-A), however, Jayson et al. found that comorbid anxiety did not influence depression remission for youth receiving individual CBT interventions. These results suggest that different treatment interventions may be differentially influenced by comorbid anxiety and that CBT may be less negatively influenced by comorbid anxiety than other treatments. This explanation may help to explain why Brent et al.'s (1998) study found that comorbid anxiety was related to worse treatment outcome for adolescents receiving

several different interventions and the current study found that comorbid anxiety was not related to worse treatment outcome when only a CBT intervention was used.

Results from studies by Clarke et al. (1992) and Curry et al. (2006) suggested that comorbid anxiety can be related to negative treatment outcome even when a CBT intervention is used, but that the specific components of the intervention may influence the relation between comorbid anxiety and treatment outcome. Curry et al. tried to determine why youth with comorbid anxiety appeared to benefit more from the CBT intervention in Brent et al.'s (1998) study compared to the studies by Curry et al and Clark et al.. Curry et al. noted that the CBT treatment that was used in the Curry et al. study and the treatment used in the Clark et al. study both focused more on skill building and less on cognitive restructuring than Brent et al.'s study. Curry et al. hypothesized that cognitive restructuring may be especially important for youth with comorbid depression and anxiety because the restructuring may reduce cognitions that lead to anxiety which may reduce the negative influence of anxiety on treatment outcomes. This hypothesis could help to explain why anxiety did not have a negative influence on treatment outcome in the current study given that this study used an intervention that heavily emphasized cognitive restructuring. Overall, the different results found between studies that were based on different treatment modalities and included different components, including the current study, suggest the need for further research into what components of treatment may make an intervention more robust to the negative influence of comorbid anxiety.

Another possible explanation for the differences found between the studies may result from the way treatment outcome was defined between studies. Previous research suggests that comorbid anxiety may be related to certain indices of treatment outcome but not to others in the same study (Brent et al., Clark et al.). Clarke et al.'s investigation found that although anxiety was related to treatment recovery for depressed youth, anxiety was not related to changes in depression severity. Brent et al.'s study found that the presence of a comorbid anxiety disorder at intake predicted depression at the end of treatment but not post-treatment levels of functional impairment. Similarly, the current study found that comorbid anxiety was significantly related to treatment outcome as defined by depression severity but not global functioning. These results suggest the importance of looking at several different indices of treatment outcome when exploring the possible relation between anxiety and treatment outcome in depressed youth.

Comorbid anxiety was also measured in different ways between and within studies. Brent et al. (1998) and Curry et al. (2006) measured comorbid anxiety as the presence of a current comorbid anxiety disorder, whereas Clark et al. (1992) measured comorbid anxiety as the severity of state anxiety before treatment and Rohde et al. measured comorbidity as the presence of a comorbid anxiety disorder sometime during a participant's lifetime. In the current study comorbid anxiety was measured in two ways, the presence of a current comorbid anxiety disorder and the severity of anxiety symptoms before treatment. The fact that different investigations of the relation between comorbid anxiety and treatment outcome have measured comorbid anxiety differently may help to explain some of the different findings between studies. In future research it will be

important to compare how different measures of comorbid anxiety may be differentially related to treatment outcome.

It is important to highlight that another possible explanation for the different results of the current study compared to several previous investigations may be that the participants of this study were significantly younger than those in the studies by Brent et al. (1998), Clarke et al. (1992), and Curry et al. (2006). In addition, the participants of the current study were all female, unlike the previous studies. It is possible that being younger or being female may somehow make depressed youth more resilient to the influence of comorbid anxiety on treatment outcome. It is important that future research examines age and gender as possible moderators of the relation between comorbid anxiety and treatment outcome in youth.

Parent Training as a Moderator of the Relation Between Comorbid Anxiety and Treatment Outcome (Hypotheses 5 and 6)

Results from the analyses completed to investigate hypotheses 5 and 6 also differed from what was originally expected. The relation between comorbid anxiety and treatment outcome (as defined by both depression severity and global functioning) was not moderated by receiving parent intervention. It was hypothesized that youth with both depression and anxiety may especially benefit from parent intervention given that the co-occurrence of anxiety and MDD has been associated with many negative family factors (Stark et al., 1990) and that children with anxiety have been found to benefit from receiving parent intervention (Barrett et al., 1996; Thienemann et al., 2006). The results from this study, however, suggested that parent intervention did not provide an additional

benefit to participants with comorbid anxiety and depression. Similarly to the results of previous hypotheses, the results of hypotheses 5 and 6 were consistent with the results of the Rohde et al. (2001) study which did not find differences between the treatment conditions (CBT alone and CBT with parent training) for the relation between lifetime anxiety comorbidity and treatment outcome.

There are some possible explanations for why parent intervention did not significantly moderate the relation between comorbid anxiety and treatment outcome even though there may have been some minor differences between treatment conditions. One explanation may be that the girls in the study experienced such significant changes from pre to post treatment in terms of depression severity and global functioning. This is illustrated by the within-subjects effect of time for both outcomes which were significant at the $p < .001$ level. The fact that the participants improved so much may have created a type of ceiling effect so that even if the parent intervention provided an additional benefit for the girls with comorbid anxiety it may not have been possible to detect this change above and beyond the improvement made in the CBT only condition. Future research should continue to explore whether the presence of parent intervention changes the relation between comorbid anxiety and treatment outcome both for CBT interventions and other treatment modalities.

Limitations

There were several limitations of the current study that should be considered when interpreting these results. One important limitation was that comorbid diagnoses that were not anxiety disorders were not addressed in this study. Some study participants

met diagnostic criteria for other comorbid diagnoses, including Eating Disorders (*n*= 1), Oppositional Defiant Disorder (*n*= 3), and Attention Deficit Disorders (*n*= 9) and it is possible that these other comorbid conditions may have influenced the depression severity and global functioning for girls with and without comorbid anxiety diagnoses. Future investigations should explore the relation between other comorbid conditions and treatment outcome for depressed youth and whether other comorbid disorders moderate the relation between comorbid anxiety and treatment outcome.

The symptom similarities between depressive and anxiety disorders and between different anxiety disorders also may have influenced the results of this study. The diagnostic interview used in this study (KSADS-IV-R) included all of the symptoms for each of the depressive and anxiety diagnoses. As a result, there was some symptom overlap between different diagnoses. For this study, all diagnostic symptoms for each disorder, even those that were overlapping symptoms, were included in the calculation of the total depression and anxiety scores. The decision was made to include all of these symptoms in order to maintain construct validity, however, it may be possible that including overlapping symptoms may have artificially increased the relation between depression and anxiety in this study.

Another major limitation of the present study was that participant's anxiety symptoms and anxious cognitions may have been addressed differently across therapists and across participants. The way in which anxious symptoms may have been addressed in therapy could have significantly influenced the treatment outcome of the girls with comorbid anxiety and depression. In addition, changes in anxiety symptoms during

treatment were not explored in this investigation and it may be possible that changes in anxiety severity during treatment may have moderated the relation between pre-treatment anxiety severity and treatment outcome. Future research should explore how anxiety is addressed during treatments for depression and whether differences in how anxiety is addressed influences treatment outcomes, in terms of depression and anxiety severity. This information could add to our understanding of how interventions work for these youth and help us to determine the possible benefits of specifically addressing anxiety symptoms as part of interventions designed to treat depression.

A final limitation of this study was that the participants of this study were all early adolescent girls so the results of this study can not be applied to boys or to girls who are younger than 9 or older than 13. This limitation also did not allow for an examination of whether gender or age moderated the relation between comorbid anxiety and treatment outcome. The specific age group of the participants was also a unique strength of this study, however, because younger adolescents have rarely been included in previous research investigating the relation between comorbidity and treatment outcome.

Implications

The results of the current study have major implications regarding our understanding of comorbid depression and anxiety and how to most effectively provide interventions for youth with both of these disorders. The first set of findings from this study suggested that prior to treatment, the presence of a comorbid anxiety disorder and the severity of anxiety symptoms were related to higher depression severity and lower global functioning. These findings were consistent with previous research. The results

from this study and previous research suggest that girls with both depression and anxiety are at risk for experiencing more severe depressive symptoms and lower functioning without treatment. These results emphasize the importance of developing effective interventions for these youth.

The strong relation between anxiety and depression severity found prior to treatment in this study also has implications for the debate about whether anxiety and depression are truly separate disorders or whether they may actually be the same disorder as suggested by Finch et al. (1989). Given that the results of this study indicated that anxiety and depression severity were very highly correlated, this does raise the question of whether they are truly different disorders. It is important that future research continue to explore this issue. Investigating the relation between depression and anxiety over the course of treatment could provide further clues as to whether depression and anxiety are the same or different disorders. Research exploring the pattern of changes during treatment for depressive and anxiety symptoms may help to determine whether these two types of symptoms have similar patterns of change or whether they are different. If depressive and anxiety symptoms follow very similar patterns of change, this could provide further evidence that depression and anxiety may actually be the same disorder.

The next set of findings from this study provided important information about the relation between comorbid anxiety and treatment outcome for depressed youth. The results suggested that girls with comorbid depression and anxiety were able to make improvements during treatment that were comparable to or larger than girls without comorbid anxiety. In fact, the girls with comorbid anxiety and depression started out with

more severe depression severity before treatment but also had a larger decrease in depression severity over treatment. In addition, the severity of anxiety symptoms was not related to poorer treatment outcome for the participants. Finding that the participants with comorbid depression and anxiety may be at risk for more severe depression and lower functioning without treatment but are just as likely to benefit from treatment as those without anxiety illustrates the importance of finding and utilizing effective interventions for youth with comorbid depression and anxiety.

Comparing the results of this study with previous research provides important clues regarding what may make interventions more or less effective for youth with comorbid depression and anxiety. Previous research has suggested that CBT may be more robust to the influence of comorbid anxiety than other interventions (Brent et al., 1998) and that including cognitive restructuring as a major focus of treatment may be especially important in the treatment of youth with comorbid depression and anxiety (Curry et al., 2006). Given that the participants of the current study all received a CBT intervention with a major focus on cognitive restructuring, this may help to explain why this study found that comorbid anxiety was not related to poor treatment outcome whereas many previous studies have found the opposite (Brent et al., 1998; Clarke et al., 1992; Curry et al., 2006). It is very important that future research continue to explore how youth with comorbid depression and anxiety respond to different interventions with different components so that we have a better understanding of which treatments have the potential to provide the most benefit for youth with depression and anxiety.

This study also explored whether parent intervention moderated the relation between comorbid anxiety and treatment outcome. Although the results suggested that the presence of parent intervention was not a significant moderator for this particular group of participants and this intervention, it is important that future research continue to explore the impact of parent intervention for participants of different ages and with different interventions.

The findings of this study also have implications for the treatment of early adolescents specifically. Past research on comorbidity and treatment outcome has focused almost completely on older adolescents so little was known about the relation between comorbid anxiety and treatment outcome for the age range focused on in the present study. This study suggested that at least for the specific intervention used in this study, comorbid anxiety diagnoses and anxiety symptom severity were not related to negative treatment outcomes. Some previous research has suggested that comorbid anxiety negatively influences treatment outcome for older adolescents (Brent et al., 1998; Clarke et al., 1992; Curry et al., 2006), however, these studies also used different interventions than the treatment used in the current study. As a result, it is unclear whether there are differences in the relation between comorbid anxiety and treatment outcome between early adolescents and older adolescents or whether the differences in results are due to treatment differences. Future research should explore these questions to determine whether treatments may be more or less effective for youth with comorbid depression and anxiety at different ages or developmental stages.

Conclusions

The main goals of the current study were to explore whether comorbid anxiety was related to treatment outcome for depressed girls receiving a cognitive behavioral intervention and whether the addition of a parent intervention changed the relation between comorbid anxiety and treatment outcome. The relation between comorbid anxiety and pre-treatment depression severity and global functioning were also explored to determine whether depressed youth with comorbid anxiety differed from those without anxiety before they received treatment. The findings of this study have major implications for the treatment of youth with comorbid depression and anxiety.

The results of this study suggested that early adolescent girls with comorbid depression and anxiety or higher anxiety severity began treatment with higher depression severity and lower global functioning. The girls with comorbid anxiety, however, were able to make changes in treatment that were comparable to or better than the girls without comorbid anxiety. The treatment condition that the participants were in (group CBT only or group CBT with parent intervention) did not appear to impact the relation between anxiety and treatment outcome.

The finding that the participants of this study with comorbid anxiety started out with more severe symptoms and lower functioning was consistent with previous research and provides further evidence of the need for effective treatments for youth with comorbid depression and anxiety. The other results of this study which suggested that comorbid anxiety was not negatively related to treatment outcome differed from several previous studies. These findings are very positive because they suggest that although

youth with comorbid depression and anxiety may experience more severe psychopathology without treatment, they have the potential to benefit from treatment just as much, if not more, than those without anxiety. Since this study and previous studies have found differing results regarding the relation between comorbid anxiety and treatment outcome, this suggests that different interventions may be more robust to the influence of comorbid anxiety or certain participants may be less impacted by comorbid anxiety during treatment. It is imperative that future research continue to explore which interventions are most effective for youth with both anxiety and depression. This information can be used to help clinicians and researchers to design interventions that can be most beneficial for youth experiencing comorbid depression and anxiety.

APPENDICES

Appendix A

DSM-IV (APA, 2000) Criteria for Major Depressive Disorder and Major Depressive Episode

DSM-IV Criteria for Major Depressive Disorder

A. Presence of one or more Major Depressive Episodes (to be considered separate episodes, there must be an interval of two consecutive months in which criteria are not met for a Major Depressive Episode).
B. Major Depressive Episode is not better accounted for by Schizoaffective Disorder and is not superimposed on Schizophrenia, Schizophreniform Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.
C. There has never been a Manic Episode, Mixed Episode, or Hypomanic Episode.

DSM-IV Criteria for Major Depressive Episode

A. Five (or more) of the following symptoms must be present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood, or (2) loss of interest or pleasure.
    1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note: in children and adolescents, can be irritable mood**.
    2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
    3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note: in children, consider failure to make expected weight gains**.
    4. Insomnia or hypersomnia nearly every day.
    5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
    6. Fatigue or loss of energy nearly every day.
    7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
    8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
    9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
B. The symptoms do not meet criteria for a Mixed Episode.

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than two months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.

Appendix B

DSM-IV (APA, 2000) Criteria for Dysthymic Disorder

A. Depressed mood for most of the day, for more days than not, as indicated either by subjective account or observation by others, for at least two years. **Note: in children and adolescents, mood can be irritable and duration must be at least one year.**
B. Presence, while depressed, of two (or more) of the following:
    1. Poor appetite or overeating
    2. Insomnia or hypersomnia
    3. Low energy or fatigue
    4. Low self-esteem
    5. Poor concentration or difficulty making decisions
    6. Feelings of hopelessness
C. During the two-year period (one year for children or adolescents) of the disturbance, the person has never been without the symptoms in Criteria A and B for more than two months at a time.
D. No Major Depressive Episode has been present during the first two years of the disturbance.
E. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode, and criteria have never been met for Cyclothymic Disorder.
F. The disturbance does not occur exclusively during the course of a chronic Psychotic Disorder, such as Schizophrenia or Delusional Disorder.
G. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
H. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Appendix C

DSM-IV (APA, 2000) Criteria for Depressive Disorder Not Otherwise Specified

A. A mood disturbance, defined as follows:
    1. At least two (but less than five) of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (a) or (b):
        a. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). **Note: in children and adolescents, can be irritable mood**.
        b. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).
        c. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. **Note: in children, consider failure to make expected weight gains**.
        d. Insomnia or hypersomnia nearly every day.
        e. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
        f. Fatigue or loss of energy nearly every day.
        g. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
        h. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
        i. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.
    2. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
    3. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).
    4. The symptoms are not better accounted for by Bereavement.
B. There has never been a Major Depressive Episode, and criteria are not met for Dysthymic Disorder.
C. There has never been a Manic Episode, a Mixed Episode, or a Hypomanic Episode, and criteria are not met for Cyclothymic Disorder.

D. The mood disturbance does not occur exclusively during Schizophrenia, Schizophreniform Disorder, Schizoaffective Disorder, Delusional Disorder, or Psychotic Disorder Not Otherwise Specified.

Appendix D

DSM-IV (APA, 2000) Criteria for Adjustment Disorders

A. The development of emotional or behavioral symptoms in response to an identifiable stressor(s) occurring within 3 months of the onset of the stressor(s).
B. These symptoms or behaviors are clinically significant as evidenced by either of the following:
    1. Marked distress that is in excess of what would be expected from exposure to the stressor.
    2. Significant impairment in social or occupational (academic) functioning.
C. The stress-related disturbance does not meet the criteria for another specific Axis I disorder and is not merely an exacerbation of a preexisting Axis I or Axis II disorder.
D. The symptoms do not represent Bereavement.
E. Once the stressor (or its consequences) has terminated, the symptoms do not persist for more than an additional 6 months.

Appendix E

DSM-IV (APA, 2000) Criteria for Generalized Anxiety Disorder

A. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).

B. The person finds it difficult to control the worry.

C. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past 6 months). **Note: only one item is required in children**.

(1) restlessness or feeling keyed up or on edge
(2) being easily fatigued
(3) difficulty concentrating or mind going blank
(4) irritability
(5) muscle tension
(6) sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep)

D. The focus of the anxiety and worry is not confined to features of an Axis I disorder, e.g., the anxiety or worry is not about having a Panic Attack (as in Panic Disorder), being embarrassed in public (as in Social Phobia), being contaminated (as in Obsessive-Compulsive Disorder), being away from home or close relatives (as in Separation Anxiety Disorder), gaining weight (as in Anorexia Nervosa), having multiple physical complaints (as in Somatization Disorder), or having a serious illness (as in Hypochondriasis), and the anxiety and worry do not occur exclusively during Posttraumatic Stress Disorder.

E. The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

F. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hyperthyroidism) and does not occur exclusively during a Mood Disorder, a Psychotic Disorder, or a Pervasive Developmental Disorder.

Appendix F

DSM-IV (APA, 2000) Criteria for Posttraumatic Stress Disorder

A. The person has been exposed to a traumatic event in which both of the following were present:

1. The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
2. The person's response involved intense fear, helplessness, or horror. **Note: in children, this may be expressed instead by disorganized or agitated behavior**

B. The traumatic event is persistently re-experienced in one (or more) of the following ways:

1. Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. **Note: in young children, repetitive play may occur in which themes or aspects of the trauma are expressed**.
2. Recurrent distressing dreams of the event. **Note: in children, there may be frightening dreams without recognizable content**.
3. Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated). **Note: in young children, trauma-specific reenactment may occur.**
4. Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.
5. Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

1. Efforts to avoid thoughts, feelings, or conversations associated with the trauma
2. Efforts to avoid activities, places, or people that arouse recollections of the trauma
3. Inability to recall an important aspect of the trauma
4. Markedly diminished interest or participation in significant activities
5. Feeling of detachment or estrangement from others
6. Restricted range of affect (e.g., unable to have loving feelings)
7. Sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span)

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

(1) difficulty falling or staying asleep
(2) irritability or outbursts of anger
(3) difficulty concentrating
(4) hypervigilance
(5) exaggerated startle response

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:

Acute: if duration of symptoms is less than 3 months
Chronic: if duration of symptoms is 3 months or more

Specify if:

With Delayed Onset: if onset of symptoms is at least 6 months after the stressor

Appendix G

DSM-IV (APA, 2000) Criteria for Panic Attacks and Panic Disorder With and Without Agoraphobia

DSM-IV Criteria for Panic Attacks

A discrete period of intense fear or discomfort, in which four (or more) of the following symptoms developed abruptly and reached a peak within 10 minutes:

1. palpitations, pounding heart, or accelerated heart rate
2. sweating
3. trembling or shaking
4. sensations of shortness of breath or smothering
5. feeling of choking
6. chest pain or discomfort
7. nausea or abdominal distress
8. feeling dizzy, unsteady, lightheaded, or faint
9. derealization (feelings of unreality) or depersonalization (being detached from oneself
10. fear of losing control or going crazy
11. fear of dying
12. paresthesias (numbness or tingling sensations)
13. chills or hot flushes

DSM-IV Criteria for Panic Disorder With or Without Agoraphobia

A. Both (1) and (2):

1. recurrent unexpected Panic Attacks
2. at least one of the attacks has been followed by 1 month (or more) of one (or more) of the following:
   a. persistent concern about having additional attacks
   b. worry about the implications of the attack or its consequences (e.g., losing control, having a heart attack, "going crazy")
   c. a significant change in behavior related to the attacks

B. Presence or Absence of Agoraphobia.

C. The Panic Attacks are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hyperthyroidism).

D. The Panic Attacks are not better accounted for by another mental disorder, such as Social Phobia (e.g., occurring on exposure to feared social situations), Specific Phobia (e.g., on exposure to a specific phobic situation), Obsessive-Compulsive Disorder (e.g., on exposure to dirt in someone with an obsession about contamination), Posttraumatic Stress Disorder (e.g., in response to stimuli associated with a severe stressor), or

Separation Anxiety Disorder (e.g., in response to being away from home or close relatives).

Appendix H

DSM-IV (APA, 2000) Criteria for Separation Anxiety

A. Developmentally inappropriate and excessive anxiety concerning separation from home or from those to whom the individual is attached, as evidenced by three (or more) of the following:

(1) recurrent excessive distress when separation from home or major attachment figures occurs or is anticipated
(2) persistent and excessive worry about losing, or about possible harm befalling, major attachment figures
(3) persistent and excessive worry that an untoward event will lead to separation from a major attachment figure (e.g., getting lost or being kidnapped)
(4) persistent reluctance or refusal to go to school or elsewhere because of fear of separation
(5) persistently and excessively fearful or reluctant to be alone or without major attachment figures at home or without significant adults in other settings
(6) persistent reluctance or refusal to go to sleep without being near a major attachment figure or to sleep away from home
(7) repeated nightmares involving the theme of separation
(8) repeated complaints of physical symptoms (such as headaches, stomachaches, nausea, or vomiting) when separation from major attachment figures occurs or is anticipated

B. The duration of the disturbance is at least 4 weeks.

C. The onset is before age 18 years.

D. The disturbance causes clinically significant distress or impairment in social, academic (occupational), or other important areas of functioning.

E. The disturbance does not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and, in adolescents and adults, is not better accounted for by Panic Disorder With Agoraphobia.

Specify if:
Early Onset: if onset occurs before age 6 years

Appendix I

DSM-IV (APA, 2000) Criteria for Specific Phobia

A. Marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation (e.g., flying, heights, animals, receiving an injection, seeing blood).

B. Exposure to the phobic stimulus almost invariably provokes an immediate anxiety response, which may take the form of a situationally bound or situationally predisposed Panic Attack. **Note: in children, the anxiety may be expressed by crying, tantrums, freezing, or clinging**.

C. The person recognizes that the fear is excessive or unreasonable. **Note: in children, this feature may be absent.**

D. The phobic situation(s) is avoided or else is endured with intense anxiety or distress.

E. The avoidance, anxious anticipation, or distress in the feared situation(s) interferes significantly with the person's normal routine, occupational (or academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

G. The anxiety, Panic Attacks, or phobic avoidance associated with the specific object or situation are not better accounted for by another mental disorder, such as Obsessive-Compulsive Disorder (e.g., fear of dirt in someone with an obsession about contamination), Posttraumatic Stress Disorder (e.g., avoidance of stimuli associated with a severe stressor), Separation Anxiety Disorder (e.g., avoidance of school), Social Phobia (e.g., avoidance of social situations because of fear of embarrassment), Panic Disorder with Agoraphobia, or Agoraphobia Without History of Panic Disorder.

Specify type:
Animal Type
Natural Environment Type (e.g., heights, storms, water)
Blood-Injection-Injury Type
Situational Type (e.g., airplanes, elevators, enclosed places)
Other Type (e.g., phobic avoidance of situations that may lead to choking, vomiting, or contracting an illness; in children, avoidance of loud sounds or costumed characters)

Appendix J

DSM-IV (APA, 2000) Criteria for Social Phobia (Social Anxiety Disorder)

A. A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. **Note: in children, there must be evidence of the capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults.**

B. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack. **Note: in children, the anxiety may be expressed by crying, tantrums, freezing, or shrinking from social situations with unfamiliar people.**

C. The person recognizes that the fear is excessive or unreasonable. **Note: in children, this feature may be absent.**

D. The feared social or performance situations are avoided or else are endured with intense anxiety or distress.

E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.

F. In individuals under age 18 years, the duration is at least 6 months.

G. The fear or avoidance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition and is not better accounted for by another mental disorder (e.g., Panic Disorder With or Without Agoraphobia, Separation Anxiety Disorder, Body Dysmorphic Disorder, a Pervasive Developmental Disorder, or Schizoid Personality Disorder).

H. If a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g., the fear is not of stuttering, trembling in Parkinson's disease, or exhibiting abnormal eating behavior in Anorexia Nervosa or Bulimia Nervosa.

Appendix K

DSM-IV (APA, 2000) Criteria for Obsessive Compulsive Disorder

A. Either obsessions or compulsions:

Obsessions as defined by (1), (2), (3), and (4):

(1) recurrent and persistent thoughts, impulses, or images that are experienced, at some time during the disturbance, as intrusive and inappropriate and that cause marked anxiety or distress
(2) the thoughts, impulses, or images are not simply excessive worries about real-life problems
(3) the person attempts to ignore or suppress such thoughts, impulses, or images, or to neutralize them with some other thought or action
(4) the person recognizes that the obsessional thoughts, impulses, or images are a product of his or her own mind (not imposed from without as in thought insertion)

Compulsions as defined by (1) and (2):

(1) repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly
(2) the behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation; however, these behaviors or mental acts either are not connected in a realistic way with what they are designed to neutralize or prevent or are clearly excessive

B. At some point during the course of the disorder, the person has recognized that the obsessions or compulsions are excessive or unreasonable. **Note: this does not apply to children.**

C. The obsessions or compulsions cause marked distress, are time consuming (take more than 1 hour a day), or significantly interfere with the person's normal routine, occupational (or academic) functioning, or usual social activities or relationships.

D. If another Axis I disorder is present, the content of the obsessions or compulsions is not restricted to it (e.g., preoccupation with food in the presence of an Eating Disorders; hair pulling in the presence of Trichotillomania; concern with appearance in the presence of Body Dysmorphic Disorder; preoccupation with drugs in the presence of a Substance Use Disorder; preoccupation with having a serious illness in the presence of Hypochondriasis; preoccupation with sexual urges or fantasies in the presence of a Paraphilia; or guilty ruminations in the presence of Major Depressive Disorder).

E. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.

Appendix L

Initial Screening Consent Letter

(SCHOOL LETTERHEAD HERE)

Dear Parent,

SCHOOL is teaming up with Kevin Stark, Ph.D. from the University of Texas to evaluate a coping skills training program for girls called ACTION. The ACTION program is designed to teach girls how to manage their emotions and stress, solve problems, and think more positively about themselves. While we believe that all students could benefit from this program, currently, only girls who are experiencing high levels of distress will be able to participate. We are asking for permission from all parents of girls in GRADES for their daughters to participate in a screening that will help identify girls who are experiencing distress. Girls who participate in the screening will fill out a questionnaire that takes approximately 10 minutes to complete. Doctoral psychology students with appropriate training will supervise the completion of the questionnaires. At this time we do not anticipate any discomfort in completing the ACTION questionnaire.

Girls who report having more than a typical number symptoms of distress will be interviewed about specific symptoms of depression to determine if they are experiencing high levels of distress. The brief symptom interview will be conducted by trained graduate students or project staff under the supervision of Dr. Stark. If a girl in the study is reporting distress on the questionnaire or brief symptom interview, the parents will be contacted by phone to ensure the girl's well-being. ACTION staff or the school counselor may discuss your child's further participation in this research project at that time. For all girls who complete the questionnaire or interview and do not show significant symptoms of distress, parents will receive a letter stating those findings.

The purpose of the project is to determine whether the ACTION coping skills program is more effective than no counseling, and whether parent participation makes the program more effective. In addition, we are trying to learn whether adding follow-up meetings prevents future distress. The benefits to participants include possible participation in the ACTION program and helping advance our understanding of how to best help young girls manage emotions and stress, solve problems and feel better about themselves.

Participation in the project will not cost you anything and there will not be any financial compensation for participation. There are not any risks of harm from completing the questionnaire. There are no anticipated risks from completing the brief symptom interview. In fact, the procedure is designed to quickly identify and assist children who

are in distress. All materials and forms will be stored in locked file cabinets in a secure office at UT to protect confidentiality.

If a child reports that she is at risk of hurting herself or others, her parents would be immediately informed and she would immediately talk with her school counselor. In addition, she would be evaluated by one of the consulting psychiatrists at no cost to the family.

If you choose to participate, you or your daughter may stop participation at any time. Participation in the study is entirely voluntary. You are free to say that you do not want to participate by returning this form indicating on the back of this page that you do not want to participate. You can refuse to participate without penalty or loss of benefits to which you and your daughter are otherwise entitled. It will not affect your relationship with your child's school or the University of Texas.

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child completes the screening questionnaire or interview and is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-0267, your school counselor, or principal.

If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512) 471-8871.

Sincerely,

_____

Researcher's Signature

_____

Principal's Signature

_____

Date

PLEASE KEEP THIS LETTER FOR YOUR RECORDS

PARENT/GUARDIAN SCREENING PROCEDURE CONSENT

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for your daughter to participate in the ACTION project at your child's school by completing the screening questionnaire and brief symptom interview, or **NO**, you have read this letter and you do not want your daughter to complete the questionnaire or interview. Regardless of your decision, please sign this form and return it to your child's teacher.

PLEASE RETURN THIS FORM TO YOUR CHILD'S SCHOOL WITH YOUR PREFERENCE NOTED BELOW:

_____YES I **give my permission** for my daughter to participate by completing the screening questionnaire and brief symptom interview.

_____NO I **do not give my permission** for my daughter to participate by completing the screening questionnaire or brief symptom interview

_____ _____

Parent's Signature Date

_____

Child's Name (please print)

We will provide feedback for all participants. Please provide information below if your child will be participating.

Parent/adult guardian name(s): _____

Mailing address: _____

City/ZIP:_____

Parent phone number(s) in case we need to reach you with a concern about your child:

Home_____cell_____work_____

Revised JLH 8/29/05

Appendix M

Child Assent Form

I agree to complete a questionnaire about my thoughts, feelings, and behaviors. This questionnaire has been explained to my parent or guardian and he or she has given permission for me to participate. I may decide at any time that I do not wish to participate and that it will be stopped if I say so. My specific responses will not be shared with anyone. However, general information about how I am doing and feeling may be shared with my parent.

When I sign my name to this page I am indicating that I read this page and that I am agreeing to participate.

_____ _____

Your Signature Date

_____

Please print your Name

Date of Birth _____

Month Day Year

ETHNICITY

(1) Do you consider yourself to be Hispanic or Latino? Please put an X in the box that best describes you.

☐ **Hispanic or Latino**

☐ **Not Hispanic or Latino**

RACE

(2) What race do you consider yourself to be? You may be more than one race. Please put an X in the box for <u>each</u> race that you believe you are. For example, if you believe you are White, you put an X in that box. If you believe you are White and Black, then you put an X in <u>both</u> the White <u>and</u> in the Black or African American box.

☐ ***American Indian or Alaska Native***

☐ ***Asian***

☐ ***Black or African American***

☐ ***Native Hawaiian or Other Pacific Islander***

☐ ***White***

☐ Check here if you do not wish to provide some or all of the above information

Appendix N

Letter to Parents if Screening Score is Below the Cutoff

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
THE UNIVERSITY OF TEXAS AT AUSTIN

School Psychology Program • George I. Sanchez Building 504 • Austin, Texas 78712-1296
(512) 471-4470 • FAX (512) 471-1288 • Campus Code D5800 • http://edpsych.edb.utexas.edu

Dear Parent,

We would like to thank you for giving your daughter permission to complete the screening measures as part of the collaborative project between UT and your child's school district. The screening measures have been scored and you will be glad to know that your daughter did not report experiencing a significant level of distress or other signs of stress. If you question these results or would like additional information, please feel free to call Kevin Stark, Ph.D. at 471-0267, or contact your school counselor.

We will be conducting the screener on a periodic basis throughout the district. Since life circumstances can change, and adolescence can be a difficult time in a girl's life, we hope that you will allow your daughter to participate again in the future.

Sincerely,

_____

Kevin D. Stark, Ph.D.

Appendix O

Letter to Parents if Screening Score is Higher than Cutoff but DSM Interview Does Not Indicate Depressive Diagnosis

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
THE UNIVERSITY OF TEXAS AT AUSTIN

School Psychology Program • George I. Sanchez Building 504 • Austin, Texas 78712-1296
(512) 471-4470 • FAX (512) 471-1288 • Campus Code D5800 • http://edpsych.edb.utexas.edu

Dear Parent,

We would like to thank you for giving your daughter permission to complete the screening questionnaires and the interview as part of the collaborative research project between UT and your child's school district. On the screening questionnaires your daughter reported experiencing some stress. Due to concern that she may be in distress, our research staff conducted an individual brief interview to assess her stress level. However, on the individual brief interview she indicated that she was not experiencing a significant level of distress. Typically, this is an indication that her reaction to stress is within normal range or that she had some misunderstanding of the items on the first questionnaire. If you question these results or would like additional information, please feel free to call Kevin Stark, Ph.D., licensed psychologist and principal investigator (512-471-0267), your school counselor, or Janay B. Sander, Ph.D., project coordinator (512-471-0218).

Sincerely,

_____

Kevin D. Stark, Ph.D.
(512) 471-0267

Appendix P

K-SADS-IVR Consent Form

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
THE UNIVERSITY OF TEXAS AT AUSTIN

School Psychology Program • George I. Sanchez Building 504 • Austin, Texas 78712-1296
(512) 471-4470 • FAX (512) 471-1288 • Campus Code D5800 • http://edpsych.edb.utexas.edu

Dear Parent,

Per our contact with you regarding your daughter's responses to the screening questionnaire and brief symptom interview, we are requesting permission for you and your daughter to complete a more comprehensive interview that will help us determine more accurately whether she is experiencing serious emotional concerns or whether she was not feeling well on the days that she completed the questionnaire and brief interview. The interviews will be conducted by trained doctoral psychology students under the supervision of Kevin Stark, Ph.D., licensed psychologist. The interview of your daughter will be completed in a room at school that will protect her privacy. It takes 45 to 90 minutes to complete and asks specific questions about how your daughter is feeling, thinking and behaving and a range of experiences she may have encountered. The interview with you will cover the same topics and can be conducted in person or over the phone if that is preferable, at a time that is convenient for you. Participation in the interview will not cost you anything and there will not be any financial compensation for participation. Completed interviews will be stored in locked file cabinets in a secure office at UT to protect confidentiality. If she is, she may be eligible for participating in the ACTION program. If this wouldn't be the best program for her, we will provide you with possible resources from within the school and the community.

If a child reports that she is at risk of hurting herself or others, her parents would be immediately informed and she would immediately talk to her school counselor. In addition, she would be interviewed by Kevin Stark, Ph.D., a licensed psychologist, or one of the consulting psychiatrists at no cost to the family. If a child reports that she is being hurt, the school's standard procedures for reporting such instances to the relevant state agency would be followed.

The purpose of the project is to determine whether the ACTION coping skills program is helpful, and whether parent participation makes the program more effective. In addition, we are trying to learn whether adding follow-up meetings prevents future distress. If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-0267 your school counselor, or principal.

If you choose to participate, you or your daughter may stop participation at any time. Participation in the study is entirely voluntary. You are free to say that you do not want to participate by returning this form indicating that you do not want to participate. You can refuse to participate and this decision will not affect your relationship with your child's school or the University of Texas.

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child completes the screening questionnaire or interview and is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512-471-8871). Let him know that you are enquiring about the study entitled "Helpfulness of the ACTION Coping Skills Program with and Without Parent Participation."

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for you and your daughter to participate by completing the interview, or **NO** you do not want to complete the interview nor do you want your daughter to complete the interview. Regardless of your decision, please sign this form and return it to your child's teacher. You will be given a copy of this permission letter to keep for your records.

☐ **YES** I give my permission for my daughter and I to participate by completing the interview.

☐ **NO** I do not give my permission for my daughter and I to participate by completing the interview.

Parent's Signature	Date
Researcher's Signature	Date
Principal's Signature	Date

Revised KDS 8/29/05

Appendix Q

Treatment Consent Form

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
THE UNIVERSITY OF TEXAS AT AUSTIN

School Psychology Program • George I. Sanchez Building 504 • Austin, Texas 78712-1296
(512) 471-4470 • FAX (512) 471-1288 • Campus Code D5800 • http://edpsych.edb.utexas.edu

Dear Parent,

Based on results of the screening and interview that you and your daughter have participated in so far, we are requesting permission for you and your daughter to continue and participate in the evaluation of the ACTION coping skills program. If you give your permission for your daughter to participate, she will be randomly assigned to one of three groups: (1) ACTION coping skills program, (2) ACTION coping skills program plus parent participation, or (3) wait to receive the program in about 12 weeks.

If your daughter is randomly assigned to the ACTION coping skills program, she will meet 20 times over the next twelve to sixteen weeks with a group of girls to participate in a counseling program that is designed to teach her problem solving, coping skills for managing her emotions and stress, and strategies for thinking more positively about herself and things in general.

If your daughter is randomly assigned to the counseling plus parent participation, she will meet 20 times over the next twelve to sixteen weeks with a group of girls to participate in a counseling program that is designed to teach her problem solving, coping skills for managing her emotions and stress, and strategies for thinking more positively about herself and things in general. In addition, you would be asked to attend a total of 10 meetings over this period that will last about an hour and a half. The parent meetings will be held at school after hours and daycare and refreshments will be provided at no expense. During these meetings parents will have a chance to learn the skills that their daughter is learning, and parents will learn strategies for helping their daughter to use the skills.

The girls will meet in a small group during an elective class. Each meeting will last one class period. Steps have already been taken to ensure that she will receive any class materials that she misses. The group meetings will be led by a trained doctoral psychology student or Ph.D. level therapist and a counselor from your daughter's school. The group leaders will be supervised by Kevin Stark, Ph.D. It is not expected that your daughter will experience any discomfort or risks from participating in the ACTION coping skills

program. In fact, past experience with the program indicates that the girls enjoy participating and benefit from it.

If your daughter is randomly assigned to wait to receive counseling in about 12 weeks, we will take the following steps to ensure that she is okay. A doctoral psychology student will meet with her each week to monitor how she is doing, she will be discreetly observed in school at lunch or recess for about fifteen minutes per week, and the staff member will check-in with her teacher each week. In addition, every other week, the staff member will check with you to see if you have any concerns. At the end of the waiting period, she will have the opportunity to participate in the coping skills program. If at any point during this waiting period she reports feeling worse or you would like to seek counseling elsewhere, we will provide you with information about community and school resources. You have the option at anytime to seek additional services including consultation with one of the project's consulting psychiatrists at no cost to you.

We will be monitoring each girl's progress and report this information to two psychiatrists who are being paid by us to oversee each child's welfare. If a participant is not improving as a result of the program, then parents will be informed and we will meet with you to discuss other options for providing your daughter with help. If you would like information about medications that might be of assistance, the psychiatrists are available to meet with you and discuss these options at no cost to you.

To determine whether the ACTION coping skills program is helpful, we are asking you and your daughter to complete some questionnaires that help guide, and evaluate the effectiveness of the ACTION program. The questionnaires will take your daughter about one hour to complete. It will take you about 30 minutes to complete your questionnaires. We are asking you to complete the questionnaires so that we can determine whether participation in the ACTION program also benefits you and your family. The questionnaires have been completed by other children and adults without any discomfort. In order to assess the potential benefits of ACTION on school performance, our staff collects the following general education information: grades from reporting periods, attendance, and discipline information for participants.

For one year after completion of the ACTION program, your daughter will have the opportunity to meet with her group and apply the skills to the new problems and stresses that she faces as she grows up and navigates her way through the many difficulties of being a teenager. The groups will meet three times a semester over the rest of the course of the study. In addition, to determine if your daughter needs additional help, once a year, we will ask you and your daughter to complete the interview and the questionnaires to determine whether we have achieved the goal of preventing the difficulties from recurring. Each time in the future that you and your daughter are asked to complete the measures, you will be paid $25.00 and your daughter will be paid $20.00.

If a participant reports at any time that she is feeling like she would like to hurt herself or someone else, then, she would be immediately interviewed by a trained staff member and the school counselor. In addition, if there is concern about a child's safety, the staff member would immediately contact the parents and Kevin Stark, Ph.D. or one of the consulting psychiatrists. If at all possible, the psychiatrist on call would be available to meet with the girl and her parents to further evaluate the situation and to provide you with information about resources from within the community that could be of help. If it is not possible to immediately meet with one of the mental health professionals, then it would be recommended that the child and parents pursue the conventional procedure of driving to the emergency room of a local hospital. If a participant reports that she is being hurt, then the staff member and school counselor would follow the school's standard procedures for reporting such instances to the relevant state agency.

All of the services that we provide are available to you at no cost to your family.

The benefits to you and your daughter are that she may learn skills and strategies that will help her to be happy and healthy throughout adolescence. Similarly, you may learn strategies for helping her to successfully make it through adolescence. The benefit to society is that it will help us to determine whether teaching girls who are experiencing depression these skills helps to reduce the depression and whether it is even more helpful to involve parents. Furthermore, since girls are at very high risk for becoming depressed between the ages of 13 to 15, the results of this study will help us learn whether there is a procedure for preventing this from occurring.

The ACTION program meetings are audiotaped for quality assurance purposes. To ensure confidentiality, the following steps will be taken: (a) the cassettes will be coded so that no personal identifying information is visible on them; (b) they will be kept in a locked file cabinet in a secure office at UT; (c) they will be reviewed only for research purposes by the relevant research staff; and (d) they will be erased after they are checked and the study has been completed. Identifying information will be removed from all of the assessment materials completed during the study and the materials will be stored in a locked file cabinet in a locked research office at UT.

Participation in the ACTION coping skills program is entirely voluntary. You are free to refuse to be in the study, you are free to discontinue participation for any reason at any time, and your refusal or discontinuation will not influence current or future relationships with The University of Texas at Austin or your child's school district

Researchers are required by Texas state law and professional ethics codes to report to Child Protective Services (or other appropriate regulatory agency) all instances of alleged child abuse and neglect. Please note that if your child is believed to be at risk for emotional, psychological or possible physical harm or neglect, then the investigator will report this information to the attending physician, Child Protective Services, and any other necessary regulatory agencies. Please note when a child reports neglect or being

harmed, participants cannot stop the referral of their child's case to the authorities and any subsequent actions taken.

If you have any questions about the study, you can call Kevin Stark, Ph.D. at (512) 471-4407, your school counselor, or principal. You may also contact the project coordinator, Jennifer L. Hargrave, Ph.D., with questions, concerns, or to withdraw from the study at any time at (512) 471-0218.
If you have questions about your rights as a participant, please contact Lisa Leiden, Ph.D., Chair, The University of Texas at Austin Institutional Review Board for the Protection of Human Subjects, (512) 471-8871. Let her know that you are enquiring about the study entitled "Helpfulness of the ACTION Coping Skills Program with and Without Parent Participation."

Please check the appropriate box indicating that **YES** you have read this letter and are giving permission for you and your daughter to participate in the ACTION coping skills program and to complete the questionnaires, or **NO** you do not want to participate in the ACTION coping skills program and you do not want to complete the questionnaires. Regardless of your decision, please sign this form and return it to your child's counselor. With this permission letter, you should have received a copy to keep for your records.

NOTE: TWO COPIES OF THIS LETTER ARE PROVIDED; ONE IS TO KEEP FOR YOUR RECORDS

PLEASE RETURN ONE COPY OF THIS PORTION TO THE SCHOOL COUNSELOR

☐ **YES** I give my permission for my daughter, _____, and me to participate in the ACTION coping skills program and to complete the questionnaires. This includes permission for ACTION staff to access report card information, discipline referrals, and attendance records during participation.

☐ **NO** I do not give my permission for my daughter, _____, to continue any further with the ACTION project.

_____ _____
Parent's Signature Date

_____ _____
Kevin D. Stark, Ph.D. Date

NOTE: TWO COPIES OF THIS LETTER ARE PROVIDED; ONE IS TO KEEP FOR YOUR RECORDS

Appendix R

ACTION Treatment Integrity Rating Form

Treatment Integrity Rating Form

Therapist:_____

School: _____ **Cohort:** ____

Ratings:
0 = Not Covered During Meeting
1 = Minimally Covered During Meeting
2 = Adequately Covered
3 = Completely Covered

Objectives Specific to Meeting 1				
Discuss the parameters of the meetings.	0	1	2	3
Introduce the counselors and participants	0	1	2	3
Establish rationale for treatment: sunglasses activity	0	1	2	3
Educate clients about confidentiality	0	1	2	3
Establish group rules	0	1	2	3
Build group cohesion/connections	0	1	2	3
Establish within group incentive system	0	1	2	3

Provide positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 2				
Introduce participants to chat time	0	1	2	3
Introduce the agenda	0	1	2	3
Establish pragmatics of completing practice	0	1	2	3
Introduction to the mood meter	0	1	2	3
Introduction to the 3 B's	0	1	2	3
Introduction to Take Action List: Link mood to doing fun things	0	1	2	3
Complete a within meeting coping skill/activity	0	1	2	3
Provide positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3

Distribute Rewards & Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 3				
Discuss the importance of thinking about the meetings and completing their practice	0	1	2	3
Focusing on the positive: Rock Candy Activity	0	1	2	3
Introduction to the Catch the Positive Diaries	0	1	2	3
Educate clients about the 3 B's	0	1	2	3
Introduction to the 5 categories of coping strategies	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Individual Meeting #1				
Review therapeutic concepts	0	1	2	3
Development of treatment goals	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3

Objectives Specific to Meeting 4				
Extend group cohesion through Connections Activity-2	0	1	2	3
Review each participant's goals and strategies for obtaining the goals	0	1	2	3
Introduction to the 5 general coping strategies and application of the coping strategies to hypothetical situations	0	1	2	3
Complete a coping skills activity	0	1	2	3
Set agenda	0	1	2	3

Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 5				
Review participants' experiences with the Catch the Positive Diaries—importance of positive self-monitoring	0	1	2	3
Experience the impact of a coping skills activity	0	1	2	3
Introduction to problem solving: Rock Candy Activity--2	0	1	2	3
Extension of problem solving: Problem identification	0	1	2	3
Application of problem solving: Extension of understanding of each of the 5 steps	0	1	2	3
Introduction to brainstorming: Solution Round Robin Activity	0	1	2	3

Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 6				
Goal attainment check-in	0	1	2	3
Demonstrate the role of cognition in emotion and behavior: Thought bubble activity	0	1	2	3
Introduction to thought feeling-coping thought worksheet	0	1	2	3
Enactment of a coping skills activity	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3

Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 7				
Review participants' experiences with the Catch the Positive Diaries—importance of positive self-monitoring	0	1	2	3
Apply problem solving to real-life situations	0	1	2	3
Practice brainstorming activity: Solution Race	0	1	2	3
Experience a coping skills activity	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3

Review and summarize meeting	0 1 2 3
Explain and assign practice	0 1 2 3

Objectives Specific to Meeting 8	
Goal attainment check-in	0 1 2 3
Application of problem solving to teasing or a real-life situation	0 1 2 3
Experience a coping skills activity	0 1 2 3
Set agenda	0 1 2 3
Provide chat time	0 1 2 3
Discuss the practice from the last meeting	0 1 2 3
Positive interpersonal behavior review	0 1 2 3
Review and summarize meeting	0 1 2 3
Explain and assign practice	0 1 2 3

Objectives Specific to Meeting 9				
Review participants' experiences with the Catch the Positive Diaries—importance of positive self-monitoring	0	1	2	3
Apply problem solving to interpersonal problems	0	1	2	3
Experience a coping skills activity	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Individual Meeting 2				
Review of therapeutic concepts	0	1	2	3

Goal attainment check-in	0	1	2	3
Identification of common negative thoughts	0	1	2	3
Individualizing the Catch the Positive Diaries	0	1	2	3
Introduction to cognitive restructuring	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 10				
Goal attainment check-in	0	1	2	3
Web Activity III: Preparing for cognitive restructuring	0	1	2	3

Experience a coping skills activity	0	1	2	3
Talking back to the Muck Monster	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 11				
Catch the positive diaries check-in	0	1	2	3
Story telling Activity: We construct our own perceptions	0	1	2	3
Illustration of how depression distorts thinking: sunglasses activity-II	0	1	2	3
The negative thoughts that comprise my sunglasses: Provide rationale for identifying and changing negative	0	1	2	3

thoughts	
Set agenda	0 1 2 3
Provide chat time	0 1 2 3
Discuss the practice from the last meeting	0 1 2 3
Positive interpersonal behavior review	0 1 2 3
Review and summarize meeting	0 1 2 3
Explain and assign practice	0 1 2 3

Objectives Specific to Meeting 12	
Goal attainment check-in	0 1 2 3
Catching negative thoughts of group members: Description of unwanted outcomes.	0 1 2 3
Introduction to Self-Mapping activity	0 1 2 3
Talking back to the Muck Monster Activity	0 1 2 3

Catch the Positive Activity: Turn compliments into positive self-statement thought bubbles & add to the self-map	0 1 2 3
Set agenda	0 1 2 3
Provide chat time	0 1 2 3
Discuss the practice from the last meeting	0 1 2 3
Positive interpersonal behavior review	0 1 2 3
Review and summarize meeting	0 1 2 3
Explain and assign practice	0 1 2 3

Objectives Specific to Meeting 13	
Catch the positive diary check-in	0 1 2 3
Catching negative thoughts of group members: Description of unwanted outcomes.	0 1 2 3
Continuation of Self-Mapping activity	0 1 2 3
Introduction to Alternative Interpretation	0 1 2 3

Using the thought judge question What's another way to look at it?	0	1	2	3
Alternative Interpretation Round Robin Activity: Applying Alternative Interpretation	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 14				
Goal attainment check-in	0	1	2	3
Catching negative thoughts of group members: Description of unwanted outcomes.	0	1	2	3
Continuation of Self-Mapping activity	0	1	2	3
Applying Alternative Interpretation: Talking back to the Muck Monster Activity	0	1	2	3

Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 15				
Catch the positive diary check-in	0	1	2	3
Catching negative thoughts of group members: Description of unwanted outcomes.	0	1	2	3
Continuation of Self-Mapping activity	0	1	2	3
Introduction to What's the evidence?	0	1	2	3
Taking your thoughts to court activity: Application of What's the evidence.	0	1	2	3

Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 16				
Goal attainment check-in	0	1	2	3
Catching negative thoughts of group members: Description of unwanted outcomes.	0	1	2	3
Continuation of Self-Mapping activity	0	1	2	3
Application of What's the evidence	0	1	2	3

Preparation for termination	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 17				
Catch the positive diary check-in	0	1	2	3
Continuation of Self-Mapping activity	0	1	2	3
Integration and application of cognitive restructuring: Muck Monster Uno Activity	0	1	2	3
Preparation for termination	0	1	2	3

Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 18				
Goal attainment check-in	0	1	2	3
Continuation of Self-Mapping activity	0	1	2	3
Integration and application of all the skills to bring about an improvement in mood.	0	1	2	3
Recognition of the smiley face ball as a symbol of participants' new ability to "catch the positive."	0	1	2	3

Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 19				
Final catch the positive diary check-in	0	1	2	3
Drawing conclusions from filling in the bubbles to the Self-Mapping activity	0	1	2	3
Web Activity IV: Empower participants—Taking responsibility for change	0	1	2	3
Preparation for Goodbye to Depression Recycling activity	0	1	2	3
Preparation for termination	0	1	2	3
Set agenda	0	1	2	3

Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3
Review and summarize meeting	0	1	2	3
Explain and assign practice	0	1	2	3

Objectives Specific to Meeting 20				
Saying good-bye to the group: Activity	0	1	2	3
Saying good-bye to negative thoughts and feelings	0	1	2	3
Preparing for termination: Discuss feelings and reactions to termination	0	1	2	3
Set agenda	0	1	2	3
Provide chat time	0	1	2	3
Discuss the practice from the last meeting	0	1	2	3
Positive interpersonal behavior review	0	1	2	3

Review and summarize meeting	0 1 2 3

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VITA

Amy Melissa Hamilton, the daughter of Jeffrey and Loni Seligman, was born in Massachusetts in 1979. After completing her studies at Lincoln Sudbury Regional High School in 1997, she entered the University of Michigan. Amy transferred to the University of Rochester in 1998. In May of 2001, she graduated *Magna Cum Laude* from the University of Rochester with highest honors in research in Psychology and with honors in Brain and Cognitive Science. Following graduation, Amy served as an Americorps member in Sunnyvale, California and then worked as a research analyst at the Center for Educational Policy at SRI International in Menlo Park, CA. Amy entered the School Psychology Doctoral Program at the University of Texas at Austin in the Fall of 2003. She received a University Pre-Emptive Fellowship in 2003, the College of Education Centennial Endowed Presidential Scholarship in 2004, and the Joseph L. Henderson and Katherine D. Henderson Foundation Student Fellowship in 2005. Amy earned her Master of Arts Degree in Educational Psychology from the University of Texas at Austin in 2007. She served as both a teaching assistant and a research assistant at the University of Texas. Amy completed her internship at the Lucile Packard Children's Hospital at Stanford and the Children's Health Council in June of 2009.

Permanent Address: 4216 Scales St
Austin, TX 78723

This dissertation was typed by Amy Melissa Hamilton.